

FM/AM RECEIVER

# KR-A4060/A5060

## SERVICE MANUAL

KENWOOD

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B51-4945-00 (K)3891

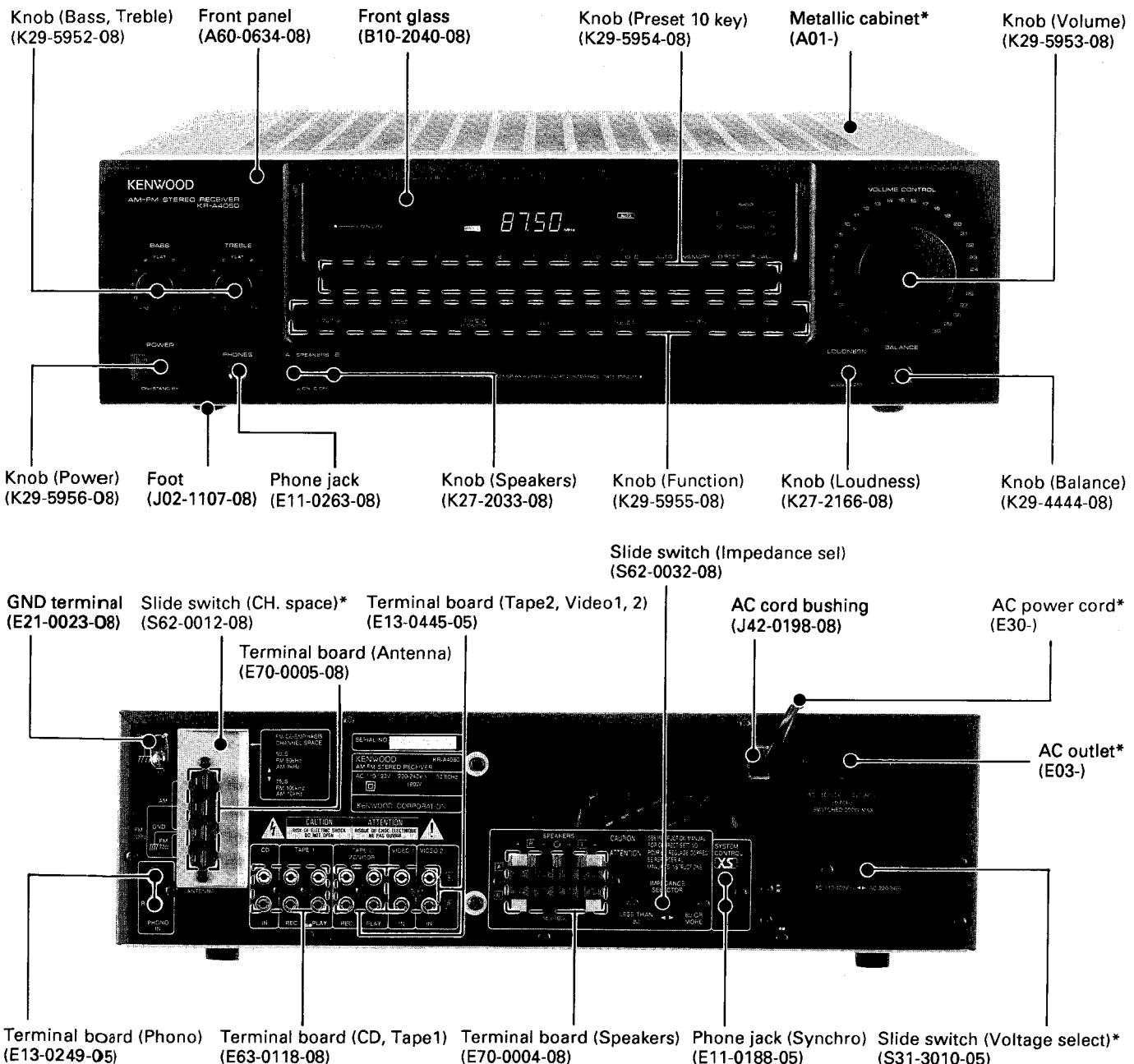


Photo is KR-A4060 (M type).

\*Refer to parts list on page 35.

# KR-A4060/A5060

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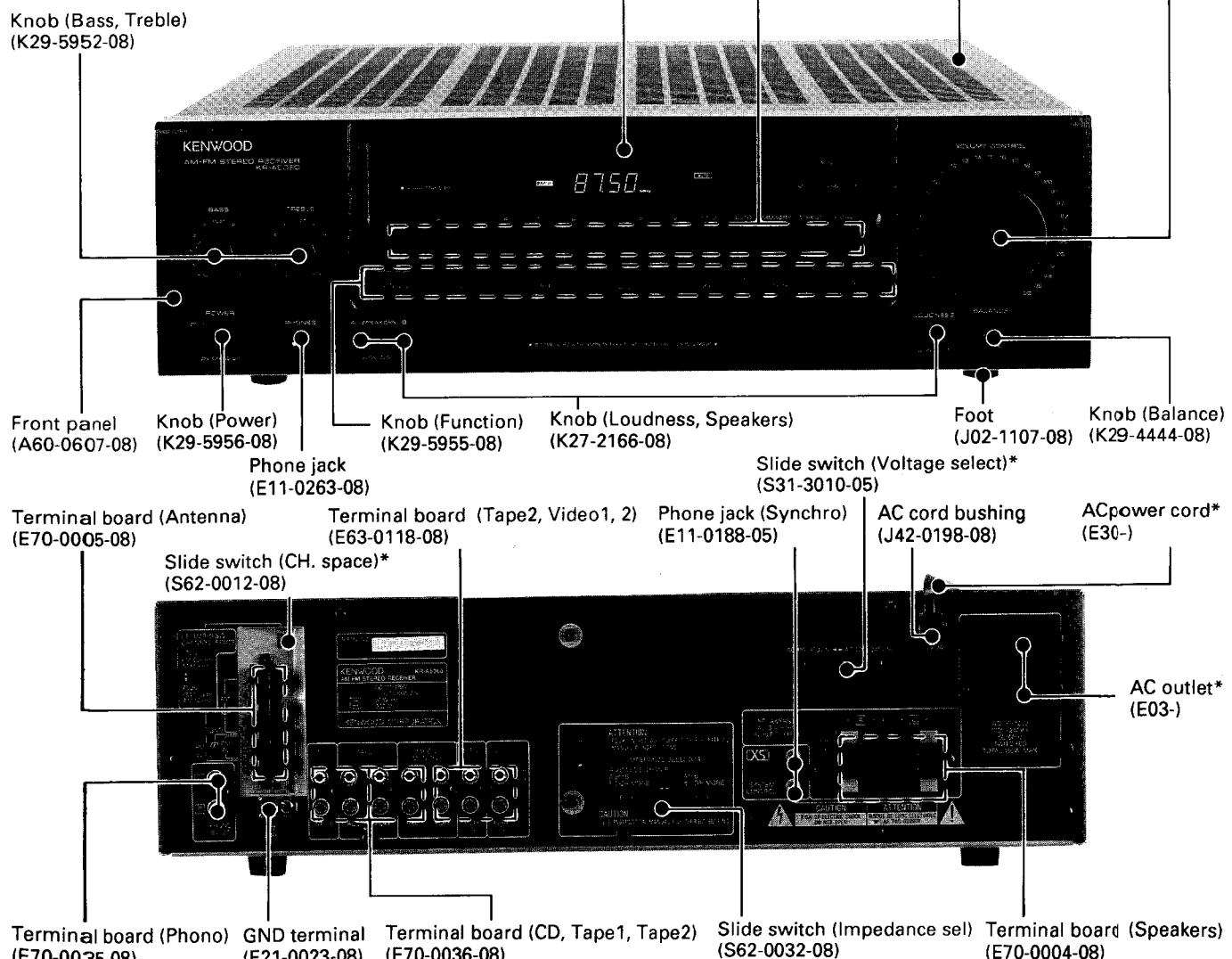
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### EXTERNAL VIEW : Photo is KR-A5060 (M type).

\*Refer to parts list on page 59.



FM/AM RECEIVER

# KR-A5060

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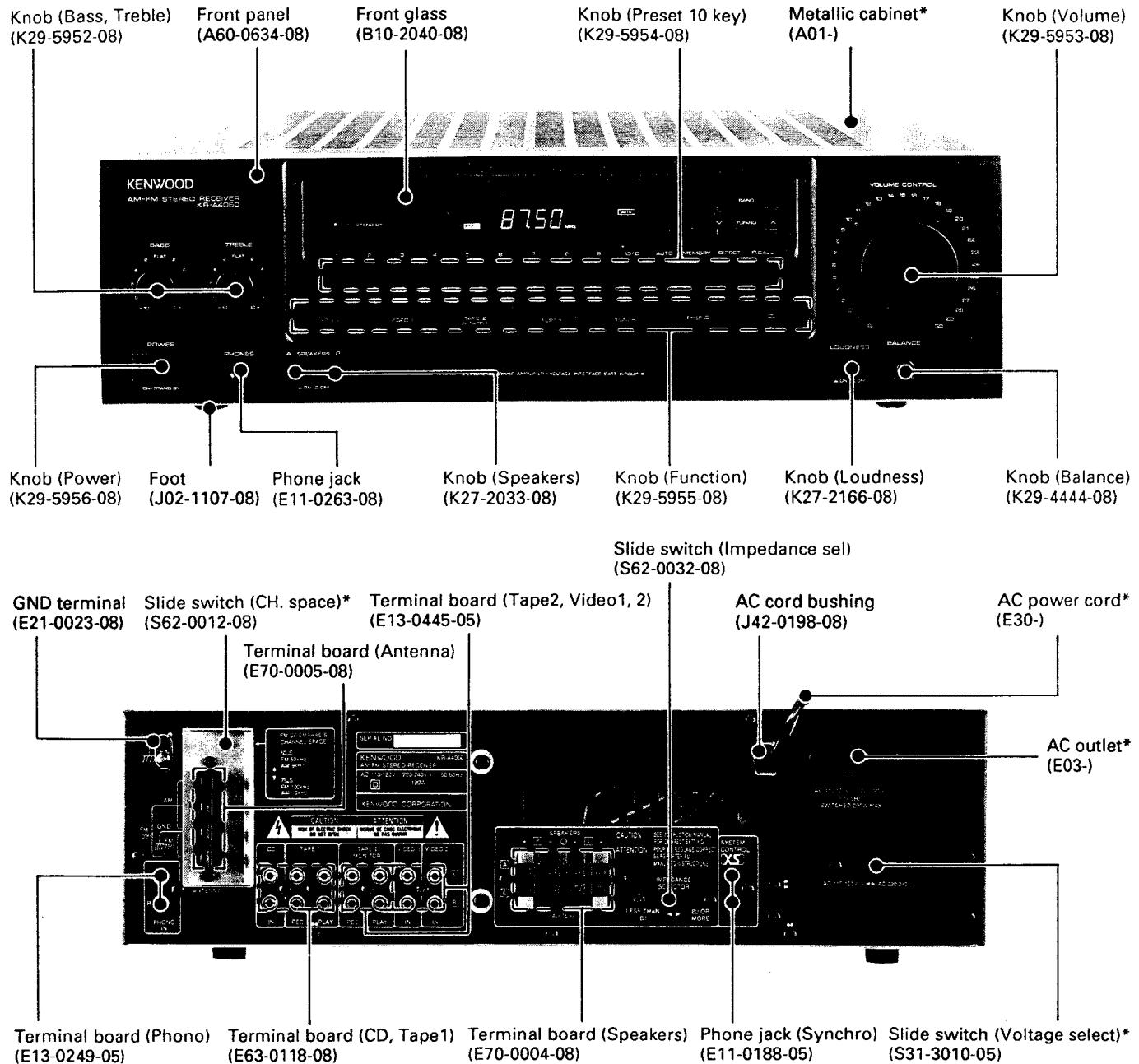
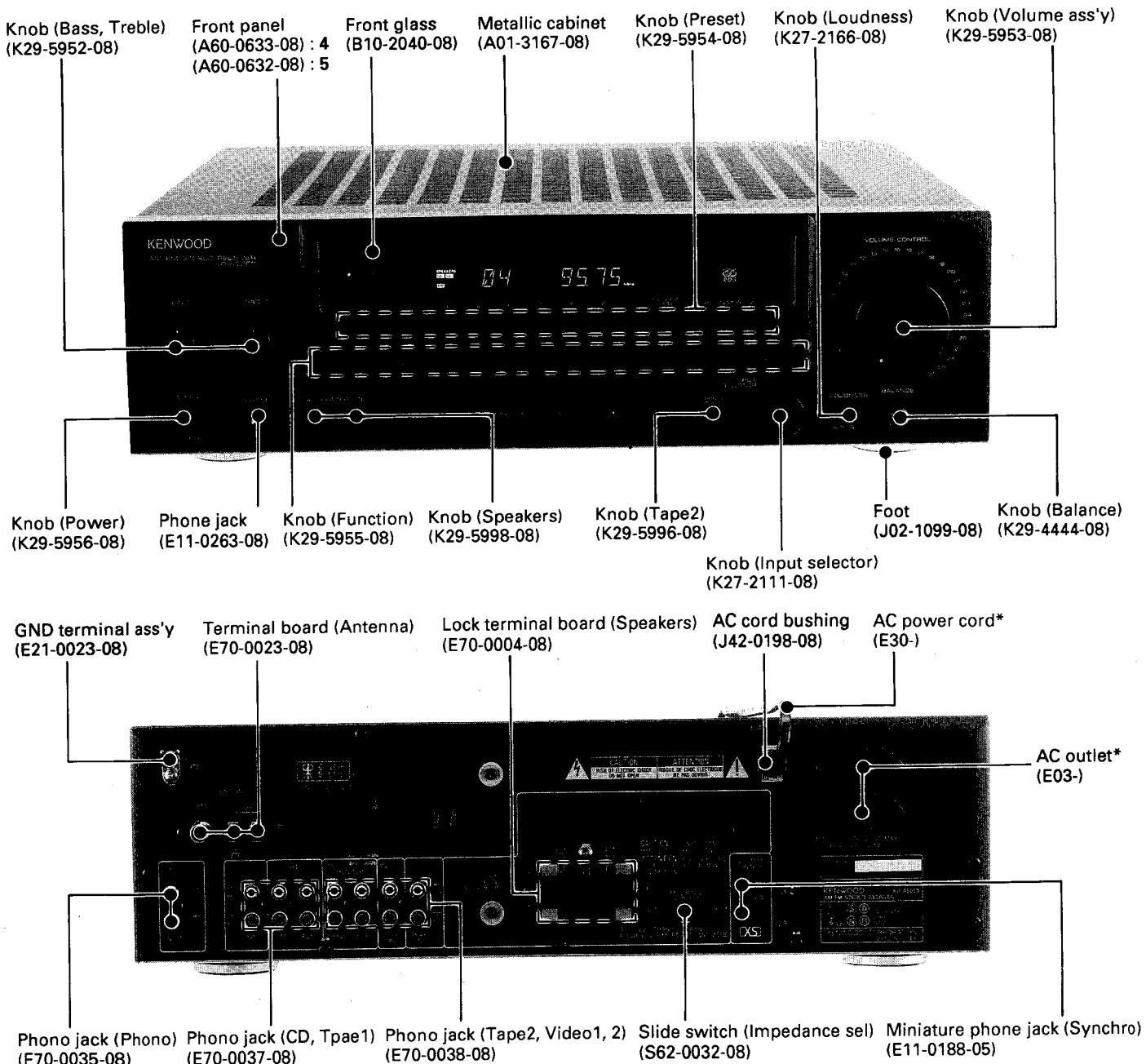


Photo is KR-A4060 (M type).

\*Refer to parts list on page 35.

# KR-A4060/A5060

## EXTERNAL VIEW : KR-A5060



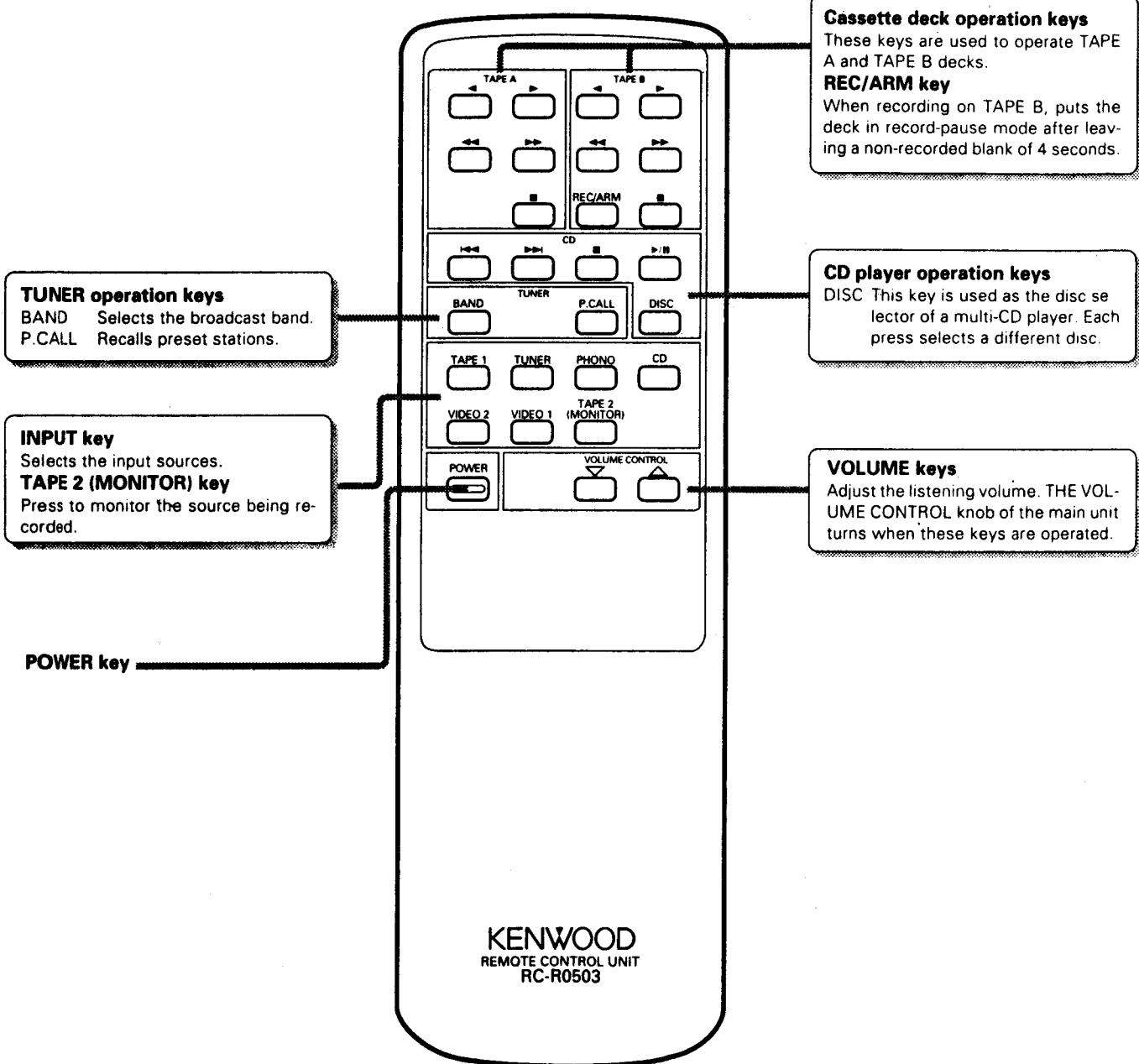
4 : KR-A4060  
5 : KR-A5060

### Photo

\*Refer to parts list on page 83.

# KR-A4060/A5060

## REMOTE CONTROL OPERATION

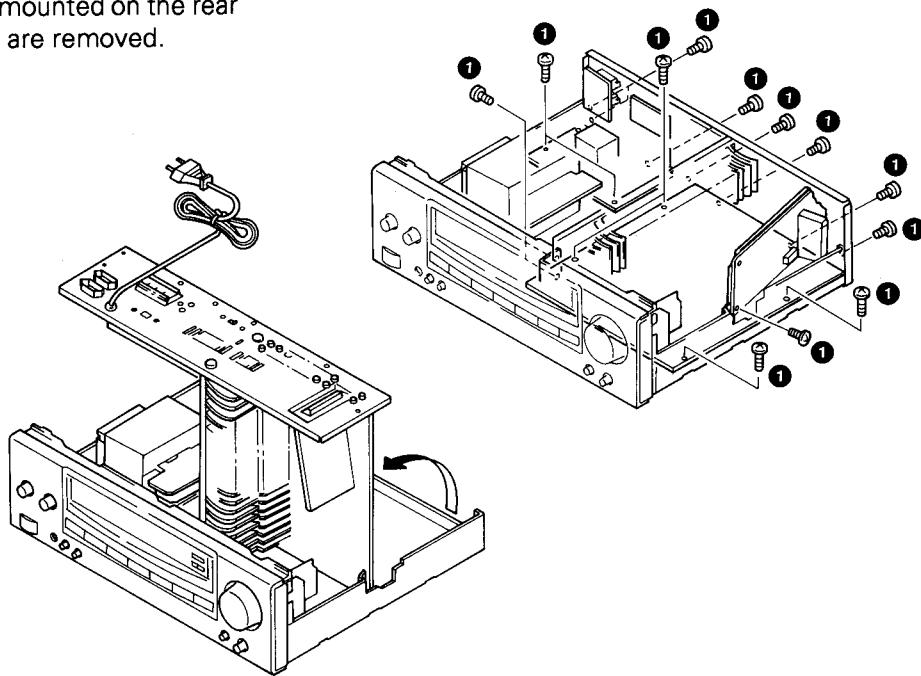


Model: RC-R0503  
Infrared ray system

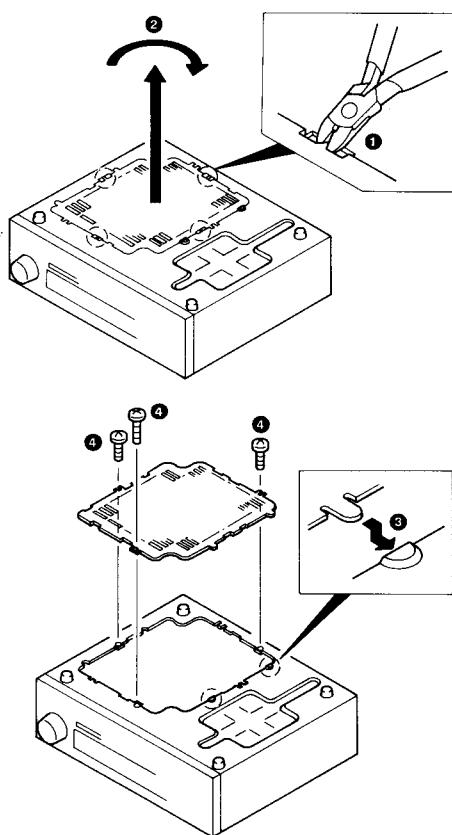
# KR-A4060/A5060

## DISASSEMBLY FOR REPAIR

1. Repair can be carried out with the Main (AUDIO) PCB and the power supply PCB mounted on the rear panel when the 17 screws (①) are removed.



2. Cut the 4 places with a pair of nippers (①), and remove the bottom panel from chassis.
3. Move the unit holder from the current position to the open mounting position.
4. Rotate the lid, which was cut off, by 180° degrees (②).
5. Insert the lids in the 2 places of the chassis (③), and mount them with the 3 screws (④).



# KR-A4060/A5060

## CIRCUIT DESCRIPTION

### 1. Setting

#### 1-1. Initial setting

- Function initial setting

Last channel memory .....	FM : 87.5MHz
K type .....	AM : 530kHz
E type .....	AM : 531kHz
Tuning mode .....	Auto
Band .....	FM1
Input selector .....	Tuner
VIDEO monitor .....	VIDEO 1
TAPE 2 monitor .....	OFF
Muting .....	OFF
Power .....	OFF

**Frequency memorized for each PRESET channel  
when the memory is cleared (Test frequency)**

Band	FM1 (MHz)		FM2 (MHz)		AM (kHz)	
	type	K	E	K	E	K
1ch	87.5	87.5	87.5	87.5	530	531
2ch	89.1	89.1	87.5	87.5	630	630
3ch	90.0	90.0	87.5	87.5	990	990
4ch	92.0	92.0	87.5	87.5	1440	1440
5ch	94.0	94.0	87.5	87.5	1610	1602
6ch	98.0	98.0	87.5	87.5	1700*	531
7ch	100.1	100.1	87.5	87.5	530	531
8ch	102.0	102.0	87.5	87.5	530	531
9ch	106.0	106.0	87.5	87.5	530	531
10ch	108.0	108.0	87.5	87.5	530	531

\*1700kHz is set for WIDE only.

- μ-com output port initial setting

[Any figure in ( ) is a pin number.]

POWER (24) .....	"L"
MUTE 1 (25) .....	"H"
MUTE 2 (26) .....	"H"
VRDOWN (1) .....	"L"
VRUP (63) .....	"L"

**The initial setting is performed in a following event**

1. When backup memory data is destroyed when reset is applied to the μ-com.
2. When the power cord is plugged in to the AC wall outlet while pressing the TUNER key.

#### 1-2. Test mode setting

- Method of entering the test mode

While pressing the CD key, plug the power cord to the AC wall outlet. When the test mode is entered, the FL tube display all lights up.

- Method of canceling the test mode

1. Unplug the power cord from the AC wall outlet once.
2. Send the reset signal to the RESET pin or some other means to reset the μ-com.

- Contents of test mode

1. When the test mode is entered, the FL tube display all lights up. This all lighting continues unless a effective remote control serial code or the test mode is canceled.
2. The test frequency is stored in memory for each preset channel. (For each frequency to be stored in memory, refer to its associated listing.)
3. The test mode is different from the normal mode in the following operations :

When the tuner UP or DOWN key is pressed when a mode other than TUNER has been selected, the potentiometer is increased or decreased.

Once one of the these keys has been pressed, the operation continues even if the key is released.

It stops automatically if the AUTO or POWER key is pressed or if the AUTO or POWER key is not pressed for 16 seconds.

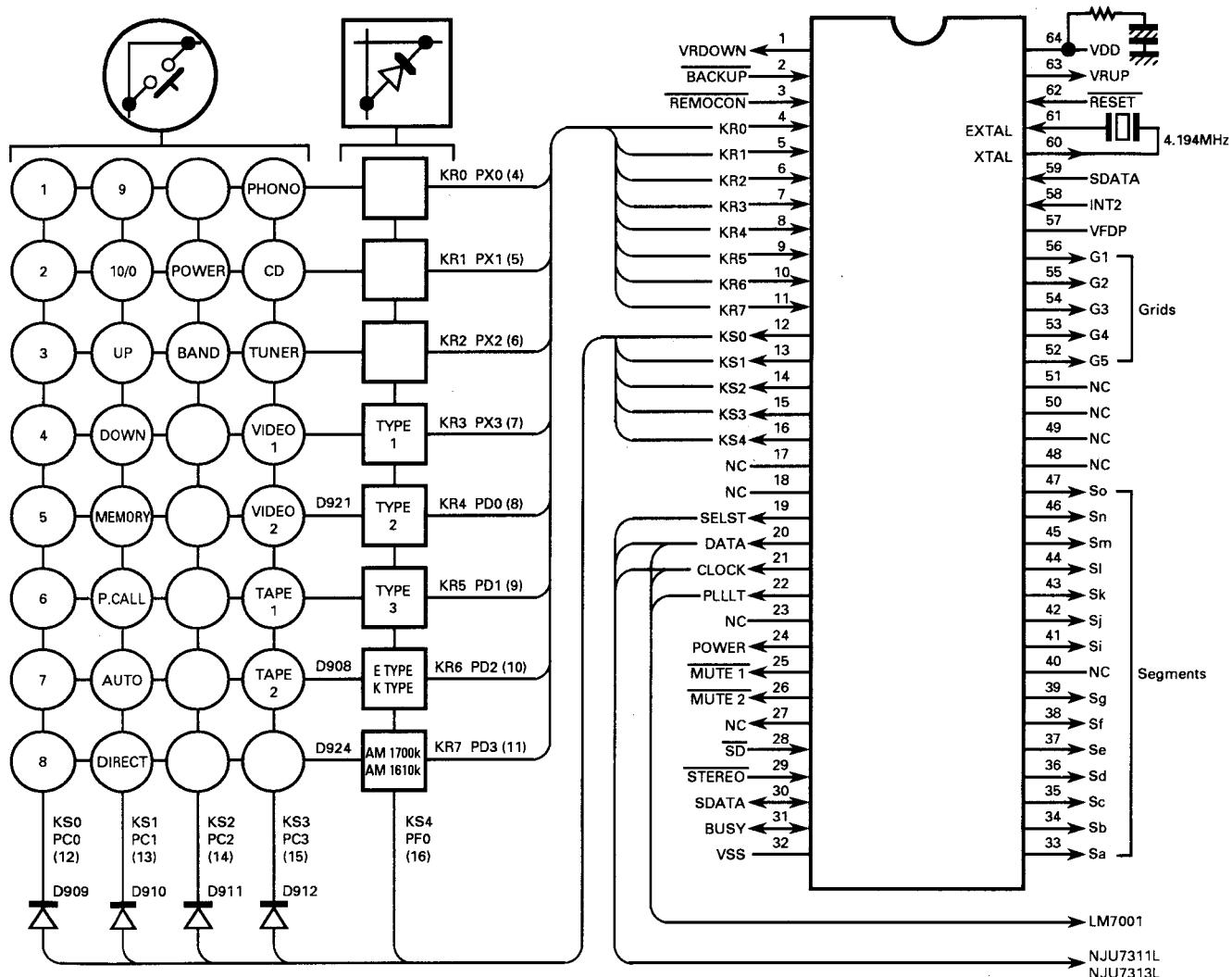
EXCEPT E,T

# KR-A4060/A5060

## CIRCUIT DESCRIPTION

### 2. Receiver µ-com : CXP5016-531S (Front PCB : IC901)

#### 2-1. Key matrix connection diagram



#### 2-2. Setting of destinations, models and specifications depending upon diode key matrix

The setting of destinations, models and specifications is made according to the initial set diode key matrix. In the following, "1" means with diodes and "0" without diodes.

##### • Model set switch (Type 2 : D921)

Model set switch			MODEL	Function		
Type 1	Type 2	Type 3		TUNER band	VOL.CONT with motor	REMOCON
-	1	0	KR-A4060/A5060	→FM1→FM2→AM→	Provided	Provided

# KR-A4060/A5060

## CIRCUIT DESCRIPTION

- Destination set switch : E/K type (D908 to Q903)

Destination set switch	Desti-nation	BAND	Reception frequency band	Channel space	Reference frequency
0	K	FM	87.5~108.0MHz	100kHz	50kHz
		AM	530~1610kHz	10kHz	10kHz
		AM	530~1700kHz	10kHz	10kHz
1	E	FM	87.5~108.0MHz	50kHz	50kHz
		AM	531~1602kHz	9kHz	9kHz

- Specification set switch :
  - AM 1700k/AM 1610k (D924)
  - With destination set switch at "0" :
  - Effective only for K type

Specification set switch	AM reception frequency band
0	530~1610kHz
1	530~1700kHz

### 2-3. Pin function

No.	Name	I/O	Function
1	VRDOWN	O	Volume down operation control. ("H" : Down, "L" : Normal state)
2	BACKUP	I	Backup (AC outlet OFF) detection. ("H" : Normal state, "L" : AC outlet off)
3	REMOCON	I	Remocon signal input. (Active "L")
4~7	KR0~KR3	I	Key return signal input. ("H" : There is input, "L" : There is not input)
8~11	KR4~KR7		
12~16	KS0~KS4	O	Key scan signal output. Normally high is output. Key scan is performed when key is ON.
17, 18	NC	O	Not used.
19	SELST	O	Data latch signal output to NJU7311L/NJU7313L. Data is latched on the rising edge.
20	DATA	O	LM7001 (PLL IC), NJU7311L/NJU7313L (selector IC) control serial data output. Data is latched on the rising edge of the clock.
21	CLOCK		LM7001, NJU7311L/NJU7313L control serial data transfer shift clock output. Data is latched on the rising edge of the clock.
22	PLLLT	O	CE signal output to LM7001. When the signal is high, LM7001 is enable.
23	NC	-	Not used.
24	POWER	O	Power supply circuit relay ON/OFF control. ("H" : ON, "L" : OFF)
25	MUTE1	O	TAPE 2 REC OUT mute control. ("H" : MUTE OFF, "L" : MUTE ON)
26	MUTE2	O	LINE OUT mute control. ("H" : MUTE OFF, "L" : MUTE ON)
27	NC	O	Not used.
28	SD	I	Tuner tuned detection. ("H" : No signal, "L" : Tuned)
29	STEREO	I	Tuner FM stereo detection. ("H" : MONO, "L" : STEREO)
30	SDATA	I/O	This pin and serial data pin 59 are shorted.
31	BUSY	I/O	Serial busy signal input/output.
32	Vss	-	GND
33~47	Sa~So	O	Fluorescent display segment drive signal output. (Pin 40 muted)
48~51	-	O	Not used.
52~56	G5~G1	O	Fluorescent display digit drive signal output.
57	VFDP	-	Fluorescent display output driver circuit power supply.
58	INT2	I	Not used. This pin and GND are shorted.
59	SDATA	I	This pin and serial data input pin 30 are shorted.
60	XTAL	O	Clock generation circuit output pin.
61	EXTAL	I	Clock generation circuit input pin.
62	RESET	I	Reset signal input.
63	VRUP	O	Volume up operation control. ("H" : UP, "L" : Normal state)
64	VDD	-	+5V power supply.

EXCEPT E,T

# KR-A4060/A5060

## CIRCUIT DESCRIPTION

### 3. Function description

#### Features

##### 3-1. AMP

- Seven position selector :  
CD, TUNER, PHONO, TAPE1, TAPE2, VIDEO1, VIDEO2
- Six audio output terminals :  
CD, PHONO, TAPE1, TAPE2, VIDEO1, VIDEO2
- Tree output terminals :  
TAPE1, TAPE2
- LINE STRAIGHT

- Speaker A/B change-over
- TAPE2 monitor

##### 3-2. TUNER

- 20ch random preset
- Tuning control by IF count
- Direct selection
- RDS function (E, T type only)

### 4. Conditions according to the destination and model

#### 4-1. AMP

MODEL	DIODE SW		Surround function
	5	4	
KR-V7050	0	0	PRO-LOGIC, 3-STEREO, DSP, DSP-LOGIC
KR-V6050 (Except E, T only)	0	1	PRO-LOGIC, 3-STEREO
KR-A4060/A5060 (E, T only)	1	X	No surround

X : Don't care

#### 4-2. TUNER

Destination	DIODE SW				Band	Receiving Remarks	Channel space	IF	RF	Note
	3	2	1	0						
K1	0	0	0	0	FM	87.5MHz~108.0MHz	100kHz	+10.7MHz	50kHz	
					AM	530kHz~1610kHz	10kHz	+450kHz	10kHz	
K2	0	0	1	0	FM	87.5MHz~108.0MHz	100kHz	+10.7MHz	50kHz	
					AM	530kHz~1700kHz	10kHz	+450kHz	10kHz	
E	0	1	0	0	FM	87.5MHz~108.0MHz	50kHz	+10.7MHz	50kHz	
					AM	531kHz~1602kHz	9kHz	+450kHz	9kHz	
E	1	1	0	0	FM	87.5MHz~108.0MHz	50kHz	+10.7MHz	50kHz	With RDS
					AM	531kHz~1602kHz	9kHz	+450kHz	9kHz	

#### 4-3. Diode matrix : Diode switch No.

	Pin No.	55	56	57	58	59	60
Pin No.	Pin name	KR5	KR4	KR3	KR2	KR1	KR0
61	KS7	Channel space	AM 1610/1700	RDS Yes/No	DSP.DOL/DOL only	Surround Yes/No	(X)
Diode switch No.		2	1	3	4	5	0
Diode Ref. No.		D911	-	D910	-	D909	-

- Diode SW 0→
- Diode SW 1→ AM band range/Except E, T type only  
0 : AM NARROW  
1 : AM WIDE
- Diode SW 2→ Channel base  
(Products bound for M : Change-over with switch)  
0 : FM 100kHz/step, AM 10kHz/step  
1 : FM 50kHz/step, AM 9kHz/step

- Diode SW 3→With/Without RDS/E, T type only  
0 : Without RDS  
1 : With RDS
- Diode SW 4→Surround mode  
0 : Dolby function & DSP function  
1 : Dolby function only
- Diode SW 5→With/Without surround  
0 : With surround  
1 : Without surround

# KR-A4060/A5060

## CIRCUIT DESCRIPTION

### 5. Initial state

① POWER OFF	③ TUNER system		
② AMP system	<ul style="list-style-type: none"> <li>• Band ..... FM</li> <li>• Frequency ..... Lower limit of FM (87.5MHz)</li> <li>• TUNING mode .... AUTO TUNING (AUTO STEREO)</li> <li>• P.CH indication ..... --ch</li> </ul>		
• Audio selector ..... TUNER	④ Test frequency		
• Video system selector ..... VIDEO 1			
• Speaker A ..... ON			
• Speaker B ..... OFF			
• TAPE 2 monitor ..... OFF			
• LINE STARIGHT ..... OFF			

	<b>K1 type</b>	<b>K2 type</b>	<b>E type</b>
01ch	FM 98.00MHz	FM 98.00MHz	FM 98.00MHz
02ch	FM108.00MHz	FM108.00MHz	FM108.00MHz
03ch	AM 630 kHz	AM 630 kHz	AM 630 kHz
04ch	AM 990 kHz	AM 990 kHz	AM 990 kHz
05ch	AM 1440 kHz	AM 1440 kHz	AM 1440 kHz
06ch	AM 1610 kHz	AM 1700 kHz	AM 1602 kHz
07ch	FM 87.50MHz	FM 87.50MHz	FM 87.50MHz
08ch	FM 98.50MHz	FM 98.50MHz	FM 98.50MHz
09ch	AM 530 kHz	AM 530 kHz	AM 531 kHz
10ch	FM 89.10MHz	FM 89.10MHz	FM 89.10MHz
11ch	FM 87.50MHz	FM 87.50MHz	FM 87.50MHz
12ch	FM 87.50MHz	FM 87.50MHz	FM 87.50MHz
13ch	FM 87.50MHz	FM 87.50MHz	FM 87.50MHz
14ch	FM 87.50MHz	FM 87.50MHz	FM 87.50MHz
15ch	FM 87.50MHz	FM 87.50MHz	FM 87.50MHz
16ch	FM 87.50MHz	FM 87.50MHz	FM 87.50MHz
17ch	FM 87.50MHz	FM 87.50MHz	FM 87.50MHz
18ch	FM 87.50MHz	FM 87.50MHz	FM 87.50MHz
19ch	FM 87.50MHz	FM 87.50MHz	FM 87.50MHz
20ch	FM 87.50MHz	FM 87.50MHz	FM 87.50MHz

**Initial setting** Insert the AC power cord plug in the electrical outlet while pushing the "POWER" key.

# KR-A4060/A5060

## CIRCUIT DESCRIPTION

### 6. Main Unit Test Mode

#### Setting method

Turn the AC power ON while pushing the "TUNING DOWN" key.

#### Cancellation method

Turn the AC power OFF.

#### Contents

##### ① Start of the main unit test mode

The operation gets in the test mode through a main unit key, when the AC power is turned ON while pushing the "TUNING DOWN" key.

##### ***Three operations are carried out in this case.***

- Automatic power ON
- All fluorescent character display tubes and LED light up.
- Initialization of all states except POWER ON/OFF.  
The "All indications lit up" states is cancelled by pushing any key of the main unit.  
The states changed during the test mode are initialized when the main unit test mode is cancelled (AC power OFF).

② Automatic motor VR UP/DOWN (AMP)  
The operation (16 sec. UP→16 sec. DOWN→STOP) of the motor is carried out when the "TAPE 2" key is operated. Therefore, "TAPE 2 (MONITOR)" can not be changed-over during the main unit test mode.

##### ③ Mute signal output (AMP)

No control of selector MUTE (MUTE1) is carried out.

##### ④ Test mode operation of 0~9, +10 (TUNER)

- a) When the +10 key is not operated, the channels 1~9 (keys 1~9), as well as the channel 10 (key 0), can be called.
- b) When the +10 key is operated once, the channels 11~19 (keys 1~9), as well as the channel 20 (key 0), can be called.
- c) When the +10 key is operated once again, the operation returns to the case "a) When the +10 key is not operated".

##### ⑤ Processing of keys available only in the remote controller

- Processing related to the AMP : None
- Processing related to the TUNER : None

##### ⑥ Cancellation of the main unit test mode

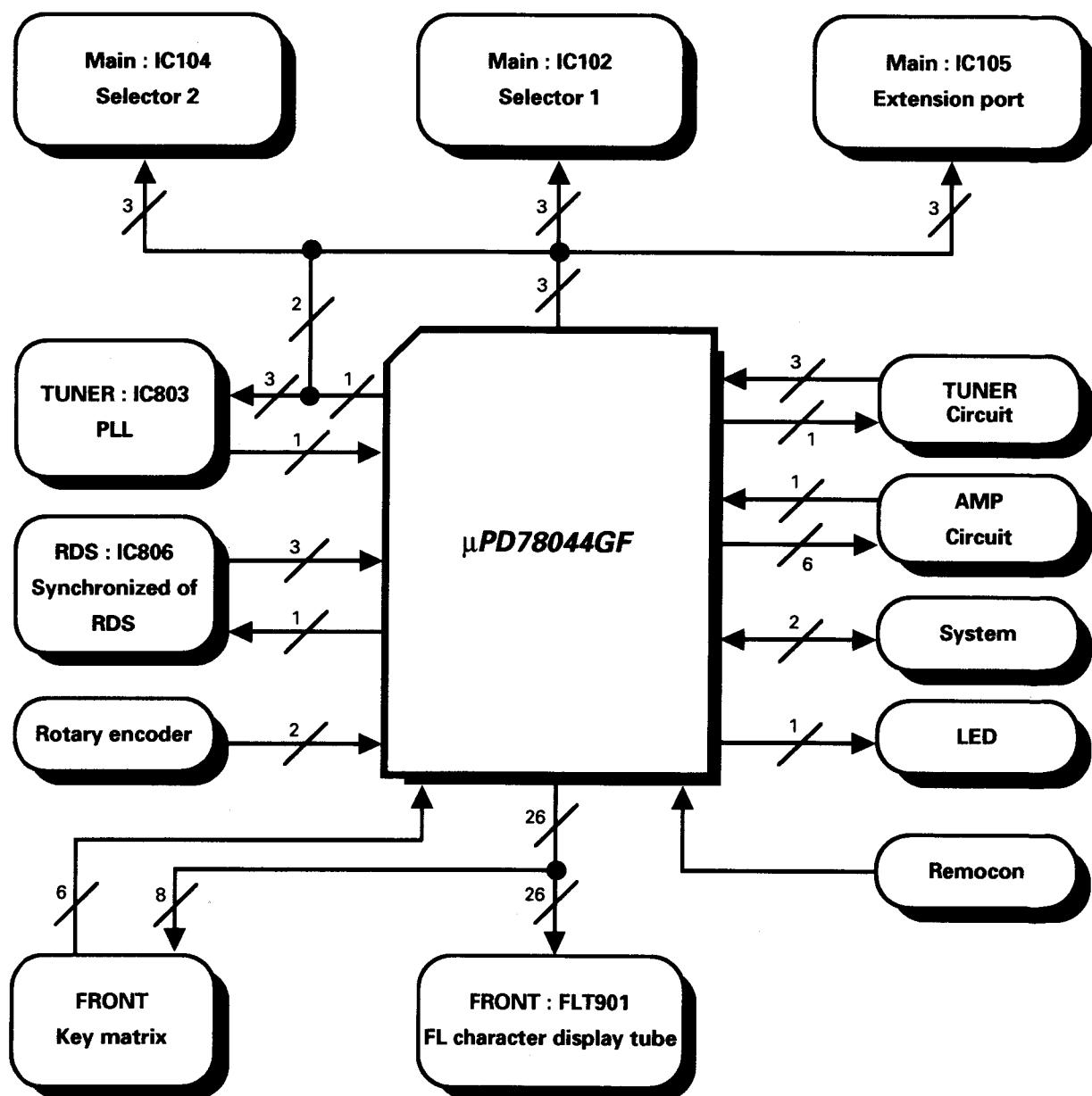
The test mode is cancelled, and the operation returns to the initial state when the AC power is turned OFF during the test mode.

# KR-A4060/A5060

## CIRCUIT DESCRIPTION

7. μ-com : μPD78044GF-021 (Front PCB : IC901)

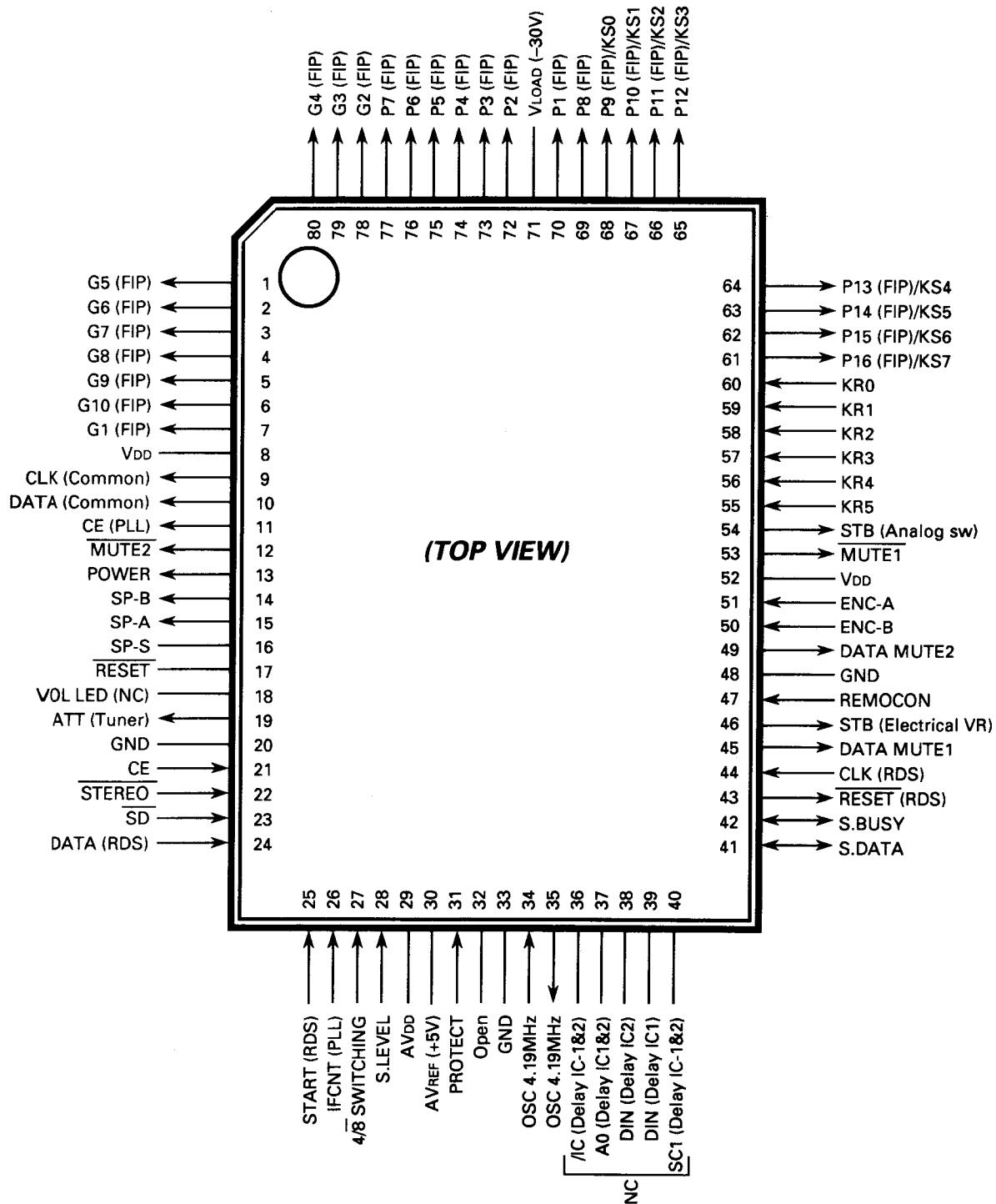
7-1. μ-com periphery block diagram



# KR-A4060/A5060

## CIRCUIT DESCRIPTION

### 7-2. Pin connection



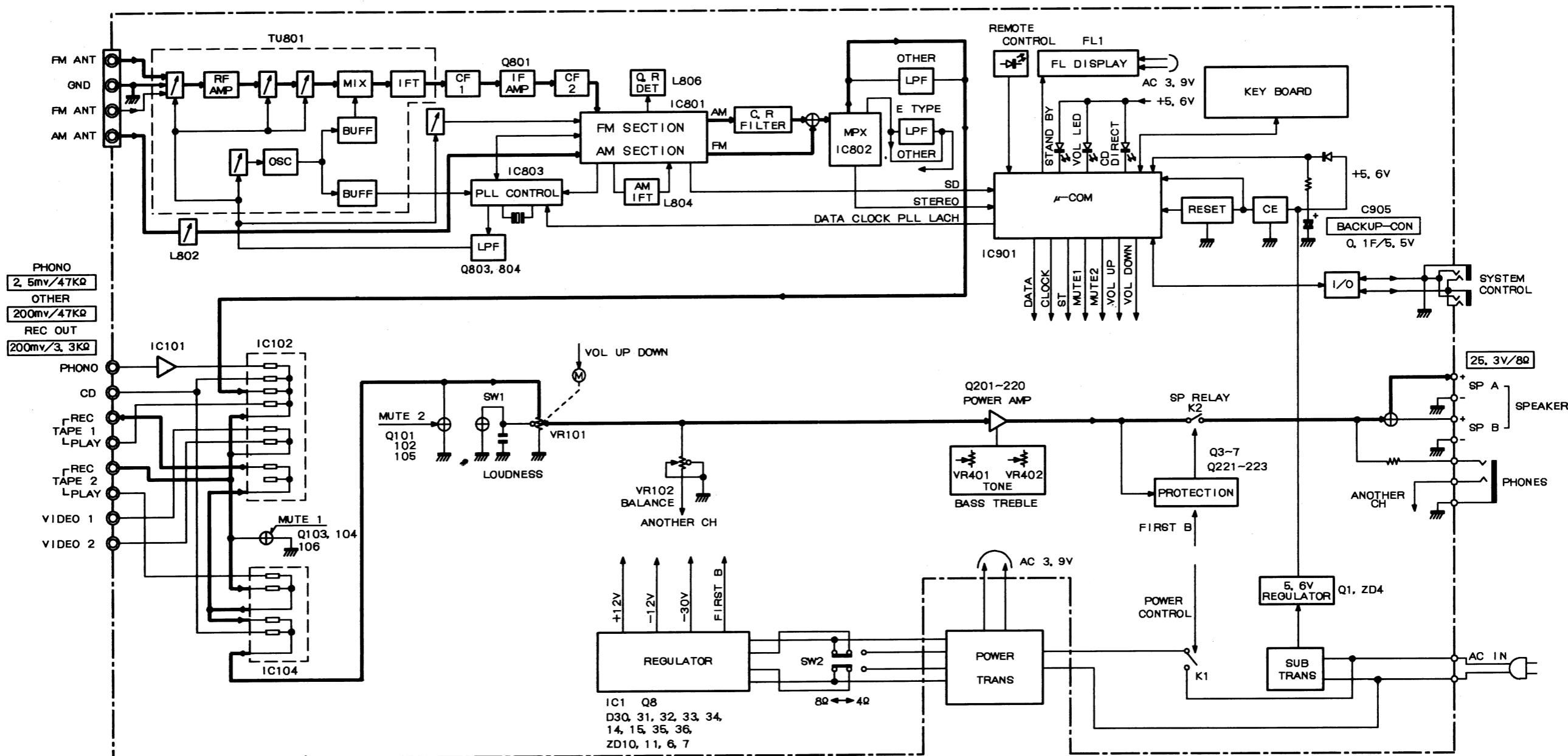
# KR-A4060/A5060

## CIRCUIT DESCRIPTION

### 7-3. Pin function

No.	Name	I/O	Function
1~6, 7	G5~G10, G1	O	FL grid 5~10, and 1.
8	VDD	-	Power supply.
9	CLK (Common)	O	Clock for control IC. (Analog sw/PLL IC/Electronic VOL)
10	DATA (Common)	O	Data for control IC. (Analog sw/PLL IC/Electronic VOL)
11	CE (PLL)	O	PLL CE.
12	MUTE2	O	Amplifier mute control. ("H" : Mute OFF, "L" : Mute ON)
13	POWER	O	Power relay control. ("H" : Power ON, "L" : Power OFF)
14	SP-B	O	Speaker B relay control. ("H" : SP-B ON, "L" : SP-B OFF)
15	SP-A	O	Speaker A relay control. ("H" : SP-A ON, "L" : SP-A OFF)
16	SP-S	-	Not used (open).
17	RESET	I	$\mu$ -com reset.
18	VOL LED	-	Not used (open).
19	ATT (Tuner)	O	Attenuator control ("H" : ATT ON, "L" : ATT OFF)
20	GND	-	A/D power supply.
21	CE	I	$\mu$ -com CE.
22	STEREO	I	Stereo signal detection. ("H" : Monaural, "L" : Stereo)
23	SD	I	Tuning signal detection. ("H" : Not tuned, "L" : Tuned)
24	DATA (RDS)	I	RDS data.
25	START (RDS)	I	RDS start bit.
26	IFCNT (PLL)	I	IF CNT data (PLL DO).
27	4/8 SWITCHING	I	Speaker impedance switching. ("H" : $4\Omega$ , "L" : $8\Omega$ )
28	S.LEVEL	I	Signal level (A/D).
29	AVDD	-	A/D power supply.
30	AVREF	-	A/D reference voltage (+5V).
31	PROTECT	I	Protection detection. ("H" : Protection, "L" : Normal)
32	NC	-	Open.
33	Vss	-	GND
34	X1	I	4.19MHz oscillator.
35	X2	O	4.19MHz oscillator.
36	/IC (DELAY IC-1 & 2)	-	Not used.
37	A0 (DELAY IC-1 & 2)	-	Not used.
38	DIN (DELAY IC-1)	-	Not used.
39	DIN (DELAY IC-2)	-	Not used.
40	SC1 (DELAY IC-1 & 2)	-	Not used.
41	S.DATA	I/O	8-bit system data.
42	S. BUSY	I/O	8-bit system busy.
43	RESET (RDS)	O	RDS reset.
44	CLK (RDS)	I	RDS clock.
45	DT MUTE1	O	Data mute 1. ("H" : ON, "L" : OFF)
46	STB (Electrical VOL)	-	Not used.
47	REMOCON	I	Remote controller input.
48	GND	-	
49	DT MUTE2	-	Not used.
50, 51	ENC-B, ENC-A	I	Encoder input. (50 pin : Encoder B, 51 pin : Encoder A)
52	VDD	-	Power supply.
53	MUTE1	O	Selector MUTE control. ("H" : MUTE OFF, "L" : MUTE ON)
54	STB (Analog sw)	O	Analog sw STB.
55~60	KR5~KR0	I	Key return 5~0. (Pin 56 : Not used)
61~68	P16/KS7~P9/KS0	O	FL segment 16~9 / Key scan 7~0.
69, 70	P8, P1	O	FL segment. (69 pin : Segment 8, 70 pin : Segment 1)
71	-30V (VLOAD)	-	FL drive power supply.
72~77	P2~P7	O	FL segment 2~7.
78~80	G2~G4	O	FL grid 2~4.

# KR-A4060 KR-A4060 BLOCK DIAGRAM



**ADJUSTMENT**

**AM section : If alignment point is "-", confirm the value. If not, replace the front end pack.**

No.	ITEM	INPUT SETTINGS	OUTPUT SETTINGS	TUNER SETTINGS	ALIGNMENT POINTS	ALIGN FOR	FIG.
<b>FM SECTION</b>							
<b>SELECTOR : FM</b>							
1	DISCRIMINATOR	(A) 98.0MHz 1kHz, ±75kHz dev. 60dB $\mu$ (ANT. input)	Connect a DC voltmeter between TP803 and TP804. (TUNER UNIT)	AUTO or MONO 98.0MHz	L806 (TUNER UNIT)	0V.	(a)
2	VCO	(A) 98.0MHz 0 dev. 60dB $\mu$ (ANT. input)	Connect a Frequency counter between TP805 and TP806. (TUNER UNIT)	AUTO 98.0MHz	L802 (TUNER UNIT)	19.00kHz	(b)
3	DISTORTION (STEREO)	(C) 98.0MHz 1kHz, ±68.25kHz dev. Selector : L or R Pilot : ±6.75kHz dev. 60dB $\mu$ (ANT. input)	(B)	98.0MHz	IFT (W02-)	Minimum distortion. (L or R)	
4	TUNING LEVEL	(A) 98.0MHz 0 dev. 18dB $\mu$ (ANT. input)	(B)	AUTO or MONO 98.0MHz	VR801 (TUNER UNIT)	Adjust VR801 and stop at the point where FLT901 (TUNED) goes on.	
<b>AM SECTION</b>							
<b>SELECTOR : AM</b>							
(1)	TUNING LEVEL	(D) 1000 (999) kHz 26dB $\mu$ (ANT. input)	(B)	-	VR804 (TUNER UNIT)	Adjust VR804 and stop at the point where FLT901 (TUNED) goes on.	
<b>AUDIO SECTION</b>							
<1>	IDLE CURRENT	-	Connect a DC voltmeter across CP1 (L), CP2 (R) (MAIN UNIT)	Volume : 0	VR201 (L) VR202 (R) (AUDIO UNIT)	10mV	(d)

**AJUSTES**

**Sección de AM : Si el punto de alineación es "-", confirme el valor. Si no, reemplace el paquete de entrada.**

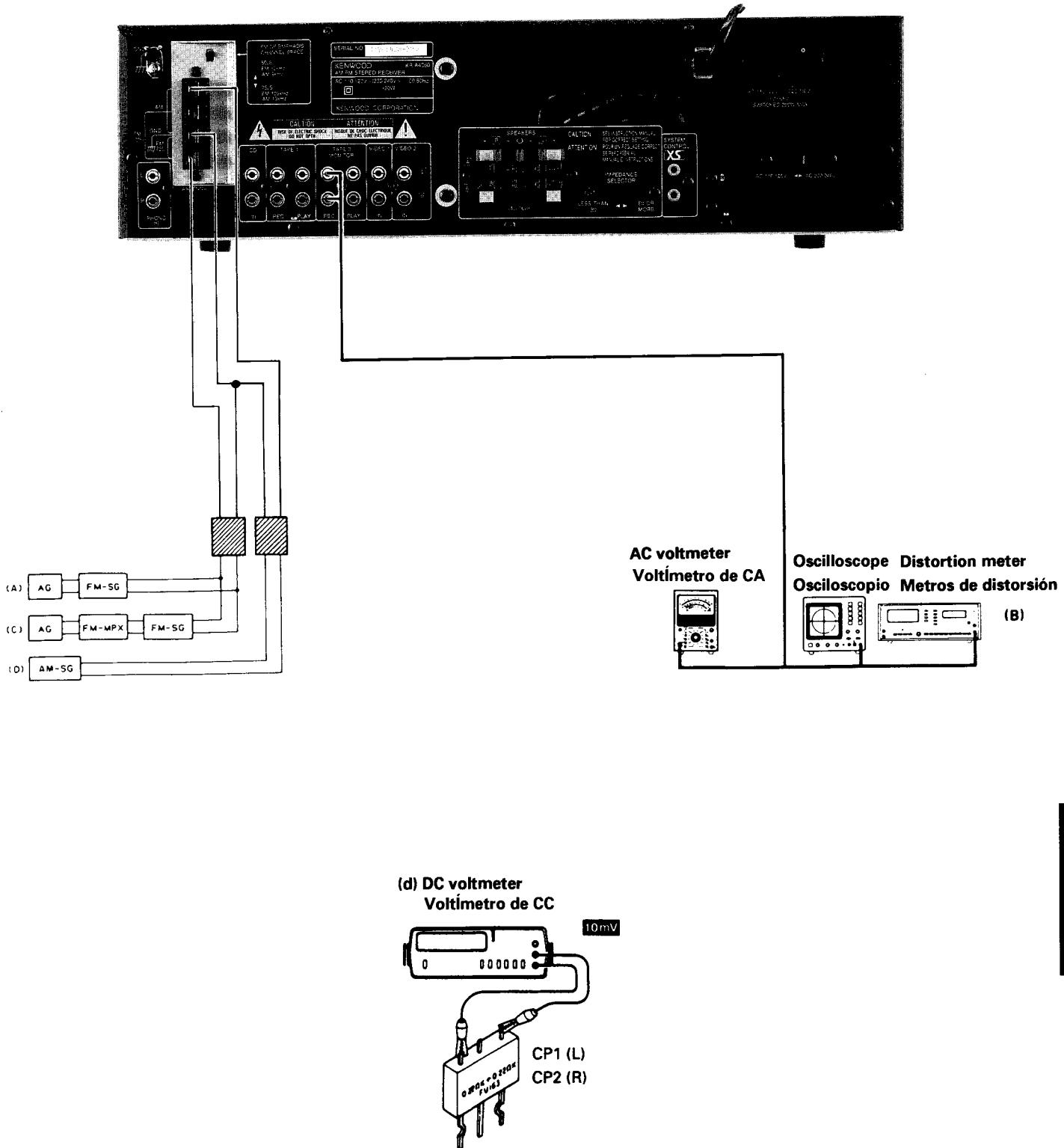
Núm.	ÍTEM	AJUSTES DE ENTRADA	AJUSTES DE SALIDA	AJUSTES DEL SINTONIZADOR	PUNTOS DE ALINEACIÓN	ALINEACIÓN PARA	FIG.
<b>SECCIÓN DE FM</b>							
<b>SELECTOR : FM</b>							
1	DISCRIMINADOR	(A) 98.0MHz 1kHz, ±75kHz dev. 60dB $\mu$ (Entrada de antena)	Conecte un voltímetro de CC entre TP803 y TP804. (UNIDAD DEL SINTONIZADOR)	AUTO o MONO 98.0MHz	L806 (UNIDAD DEL SINTONIZADOR)	0V.	(a)
2	VCO	(A) 98.0MHz 0 dev. 60dB $\mu$ (Entrada de antena)	Conecte un Frecuencímetro entre TP805 y TP806. (UNIDAD DEL SINTONIZADOR)	AUTO 98.0MHz	L802 (UNIDAD DEL SINTONIZADOR)	19.00kHz	(b)
3	DISTORSIÓN (ESTÉREO)	(C) 98.0MHz 1kHz, ±68.25kHz dev. Selector : L or R Pilot : ±6.75kHz dev. 60dB $\mu$ (Entrada de antena)	(B)	98.0MHz	IFT (W02-)	Distorsión mínima. (L o R)	
4	NIVEL DE SINTONÍA	(A) 98.0MHz 0 dev. 18dB $\mu$ (Entrada de antena)	(B)	AUTO o MONO 98.0MHz	VR801 (UNIDAD DEL SINTONIZADOR)	Ajuste VR801 y pare en el punto en el que se encienda FLT 901 (SINTONIZADO).	
<b>SECCIÓN DE AM</b>							
<b>SELECTOR : AM</b>							
(1)	NIVEL DE SINTONÍA	(D) 1000 (999) kHz 26dB $\mu$ (Entrada de antena)	(B)	-	VR804 (UNIDAD DEL SINTONIZADOR)	Ajuste VR801 y pare en el punto en el que se encienda FLT 901 (SINTONIZADO).	
<b>SECCIÓN DE AUDIO</b>							
<1>	CORRIENTE EN REPOSO	-	Conecte un voltímetro de CC entre CP1 (L) y CP2 (R) (UNIDAD PRINCIPAL)	Volumen : 0	VR201 (L) VR202 (R) (UNIDAD AUDIO)	10mV	(d)

EXCEPT ET

# KR-A4060

## ADJUSTMENT/AJUSTES

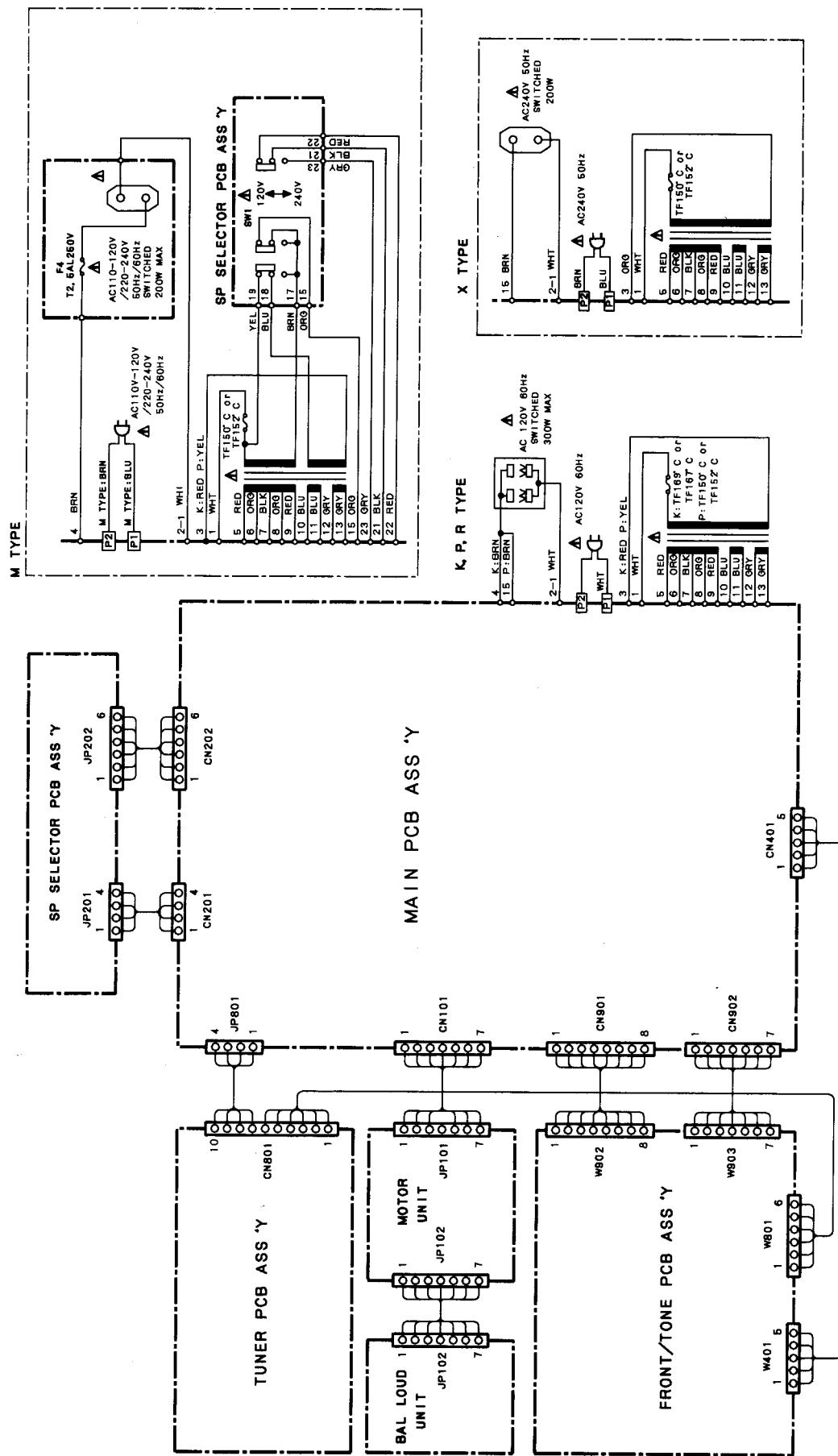
### SYSTEM CONNECTIONS/CONEXIONES DEL SISTEMA



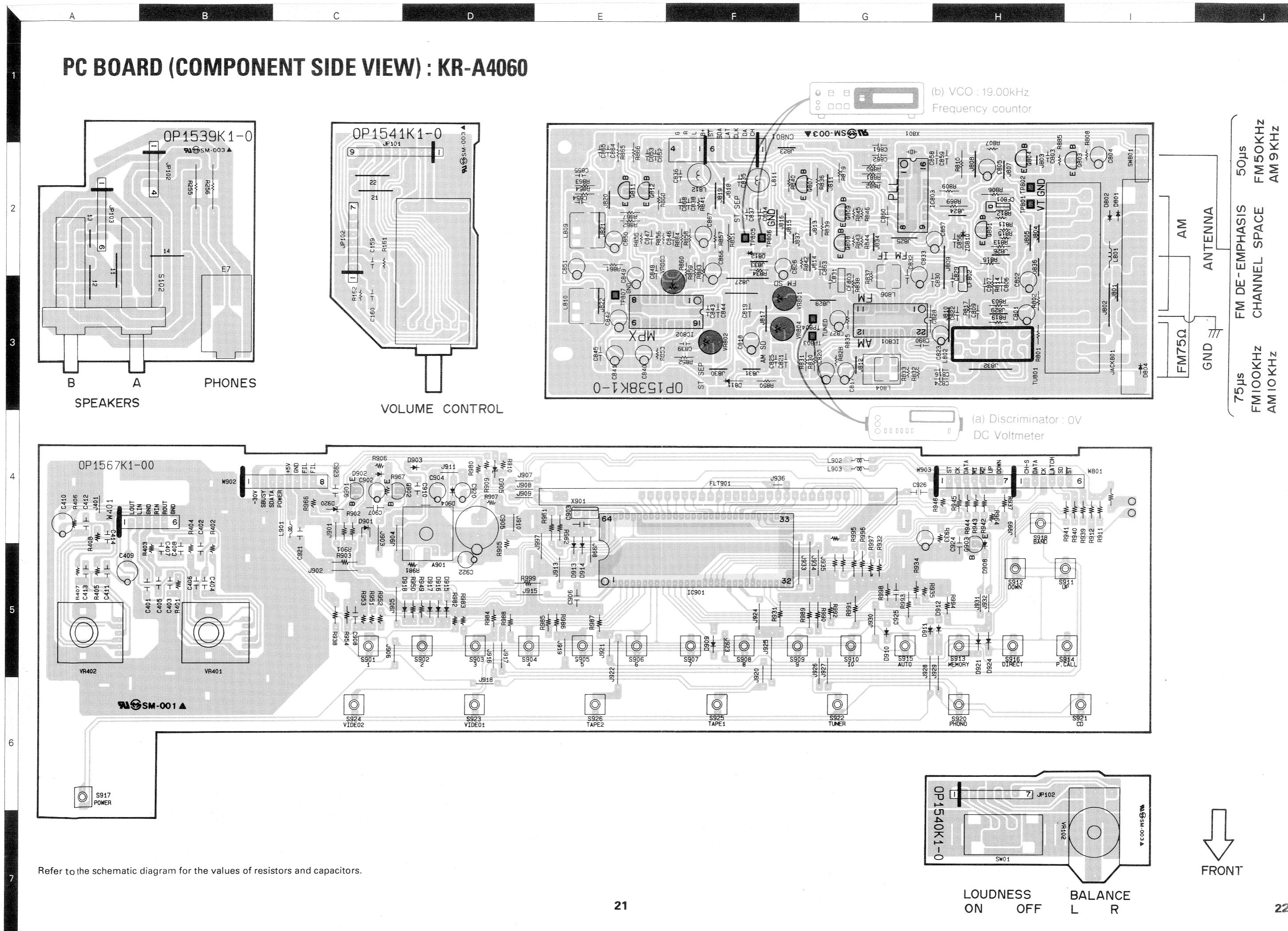
# KR-A4060

## WIRING DIAGRAM

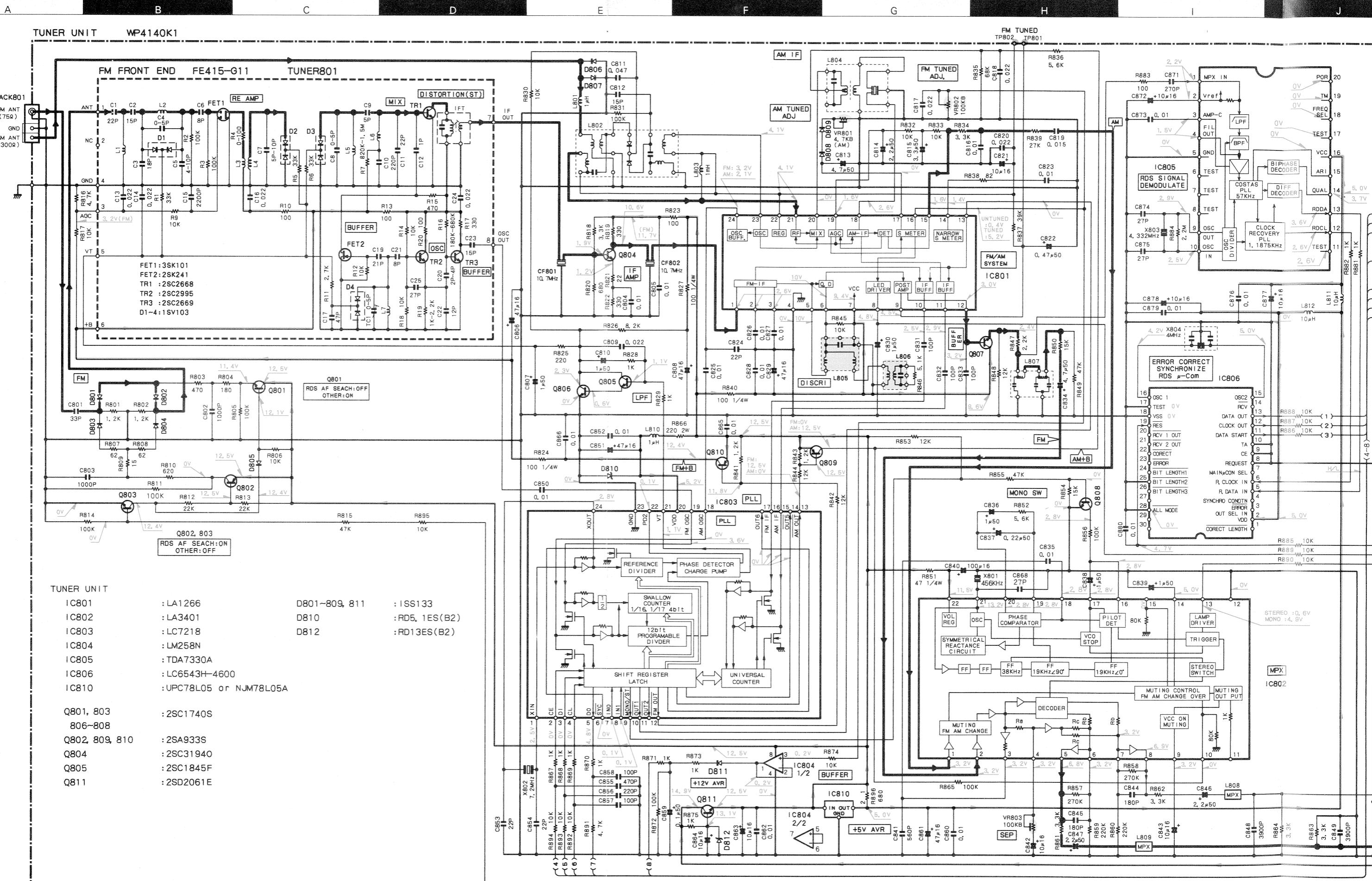
EXCEPT E,T

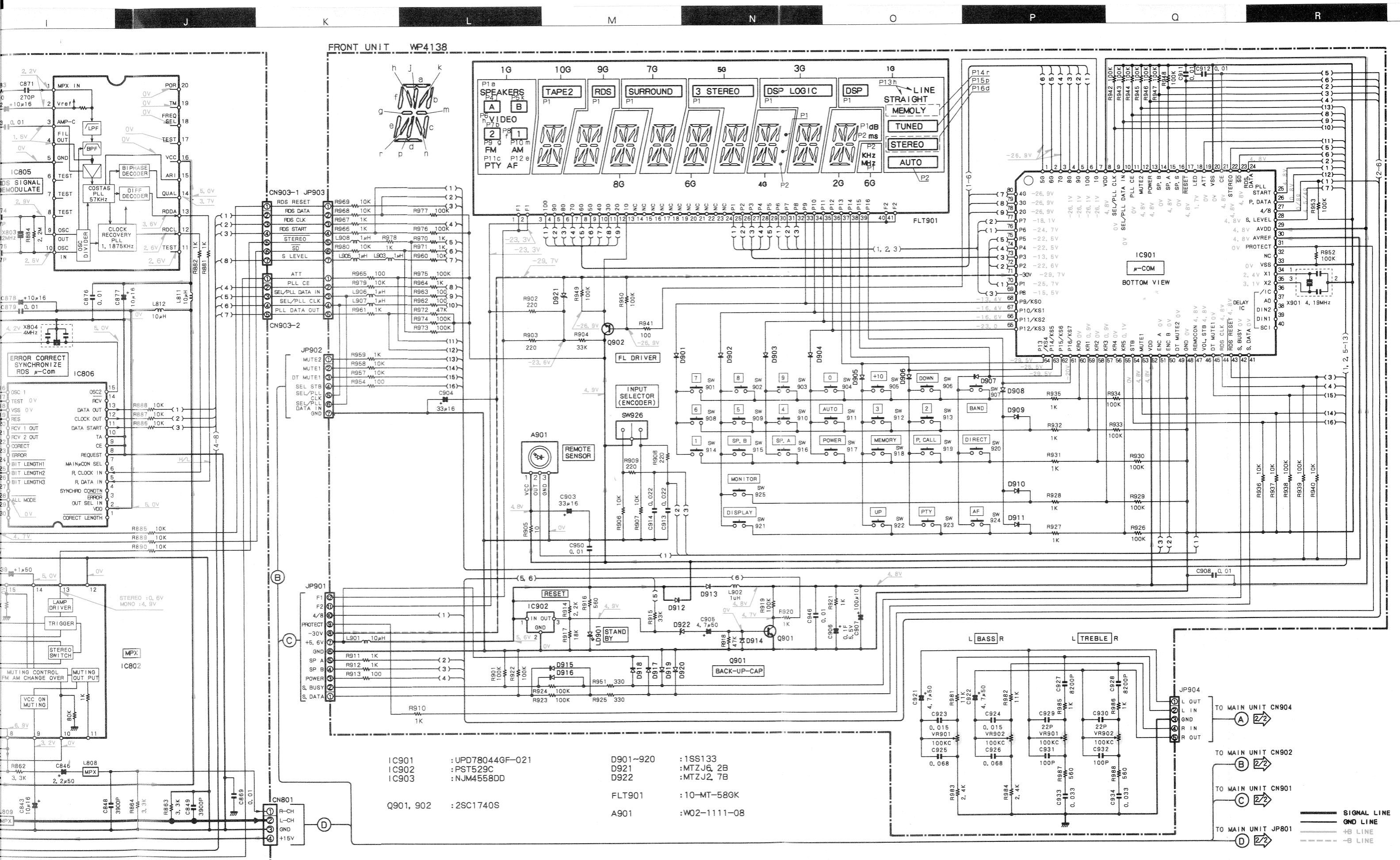


# PC BOARD (COMPONENT SIDE VIEW) : KR-A4060

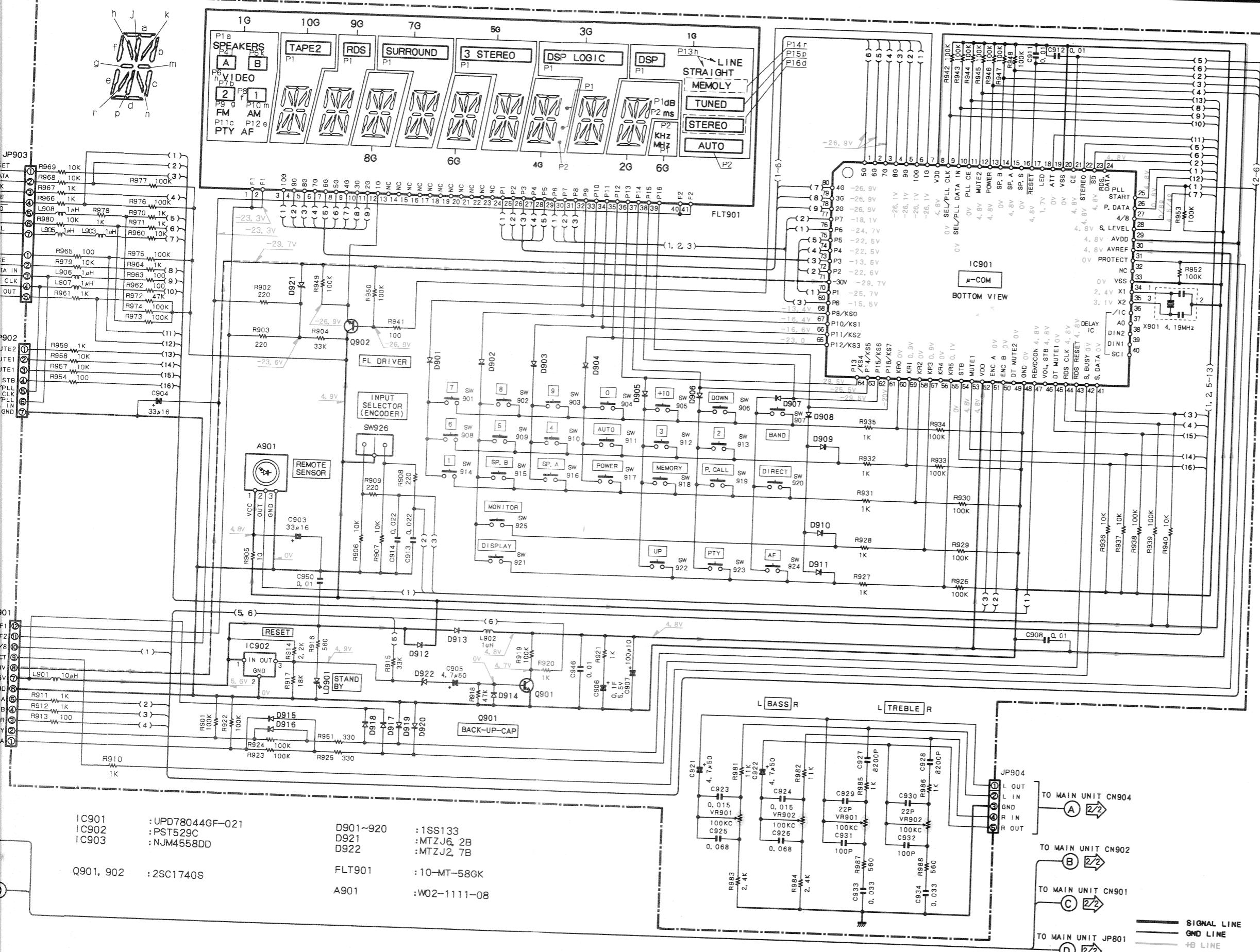




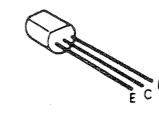




## FRONT UNIT WP4138



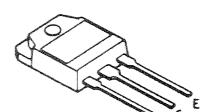
2SA992  
2SC1845  
2SC2878



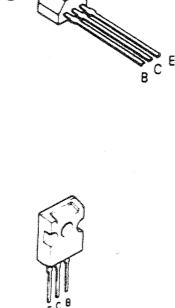
2SD882



2SA1695  
2SC4467



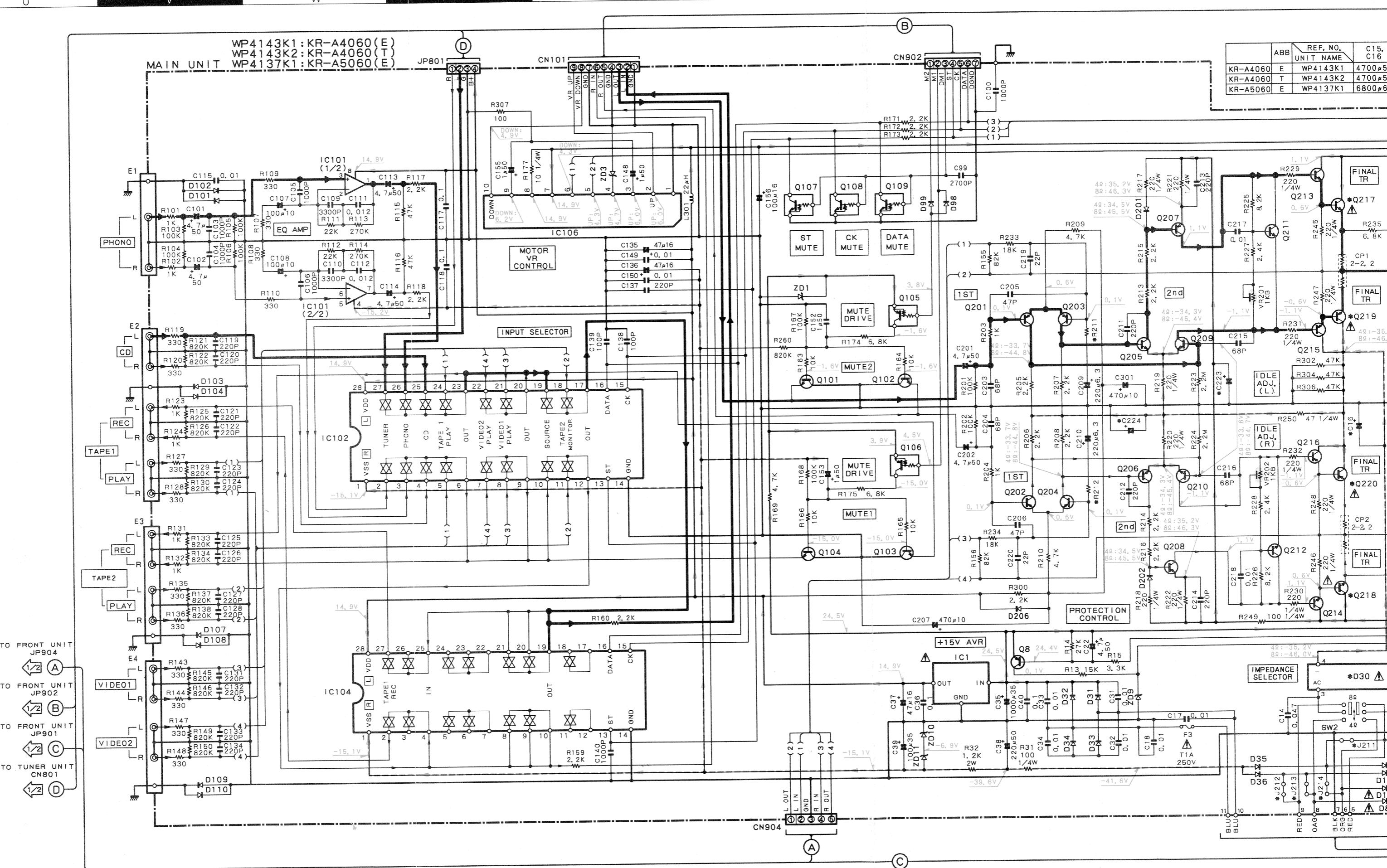
DTA114ES  
DTC114ES  
2SA933S  
2SC1740S



2SC4137

- DC voltages are as measured with a high impedance voltmeter. Values may vary slightly due to variations between individual instruments or/and units.

**CAUTION :** For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list).  $\Delta$  Indicates safety critical components. To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.



AC

AD

AE

AF

AG

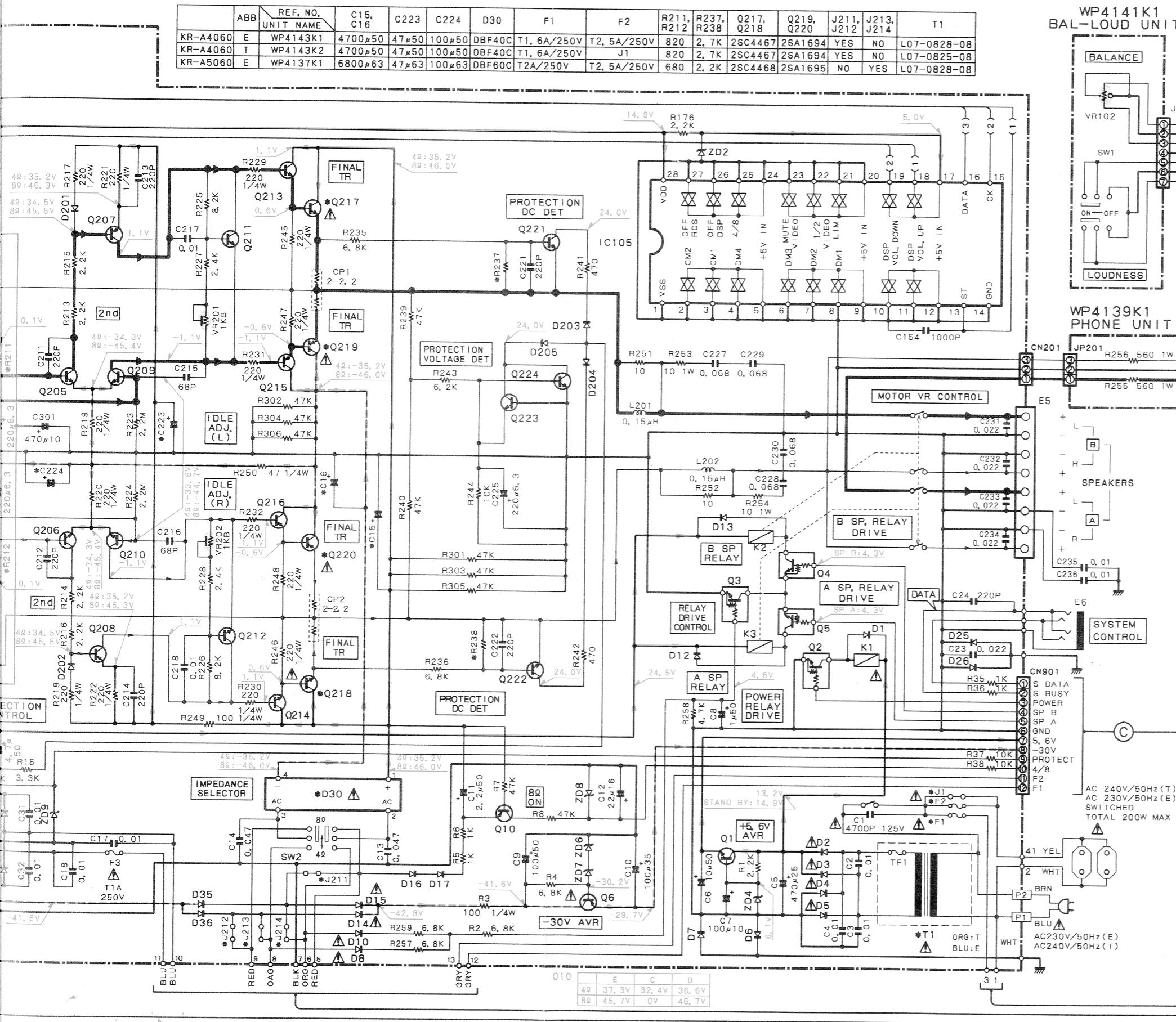
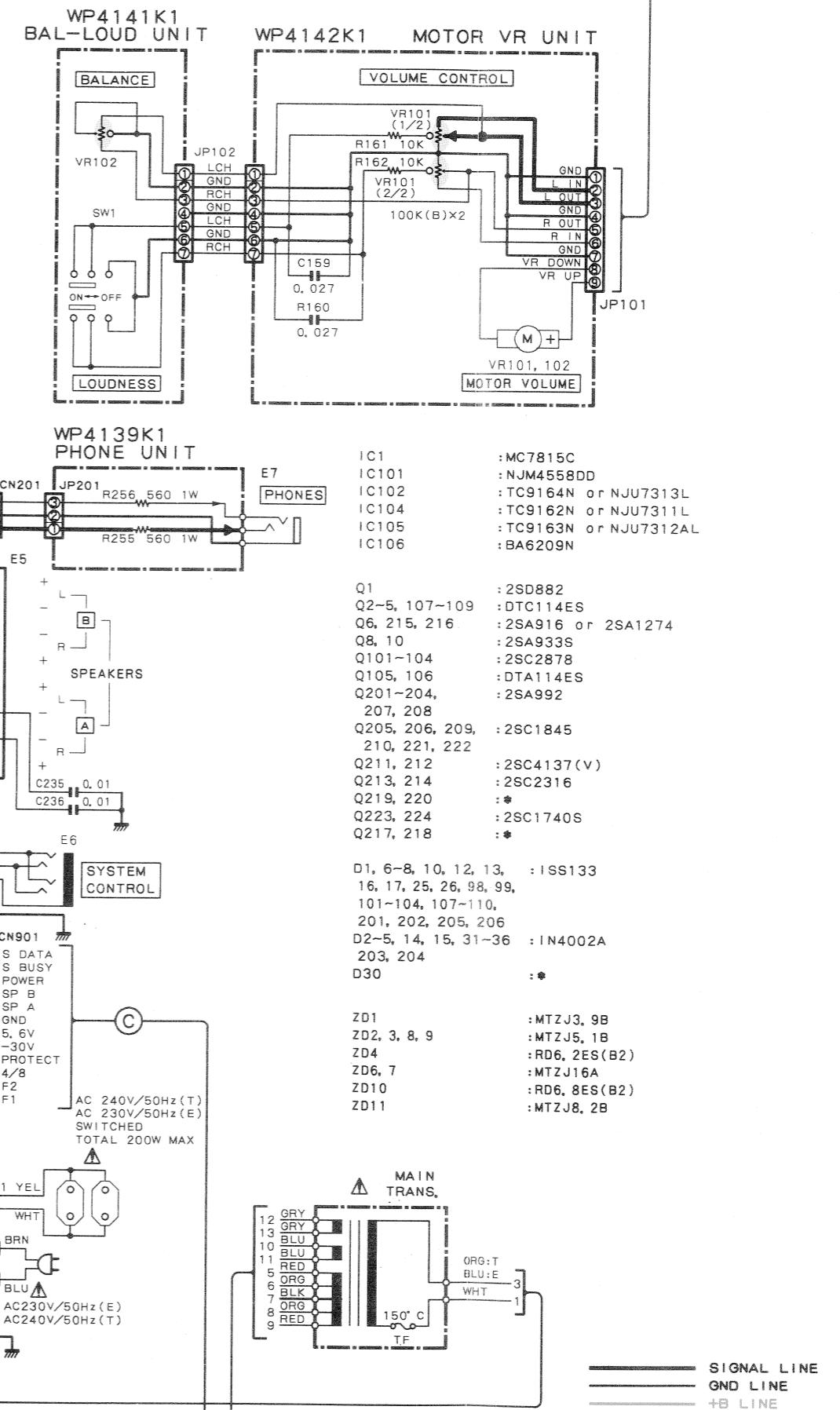
AH

AI

AJ

AK

AL

WP4141K1  
BAL-LOUD UNITWP4142K1  
MOTOR VR UNIT

: MC7815C  
: NJM455BDD  
: TC9164N or NJU7313L  
: TC9162N or NJU7311L  
: TC9163N or NJU7312AL  
: BA6209N

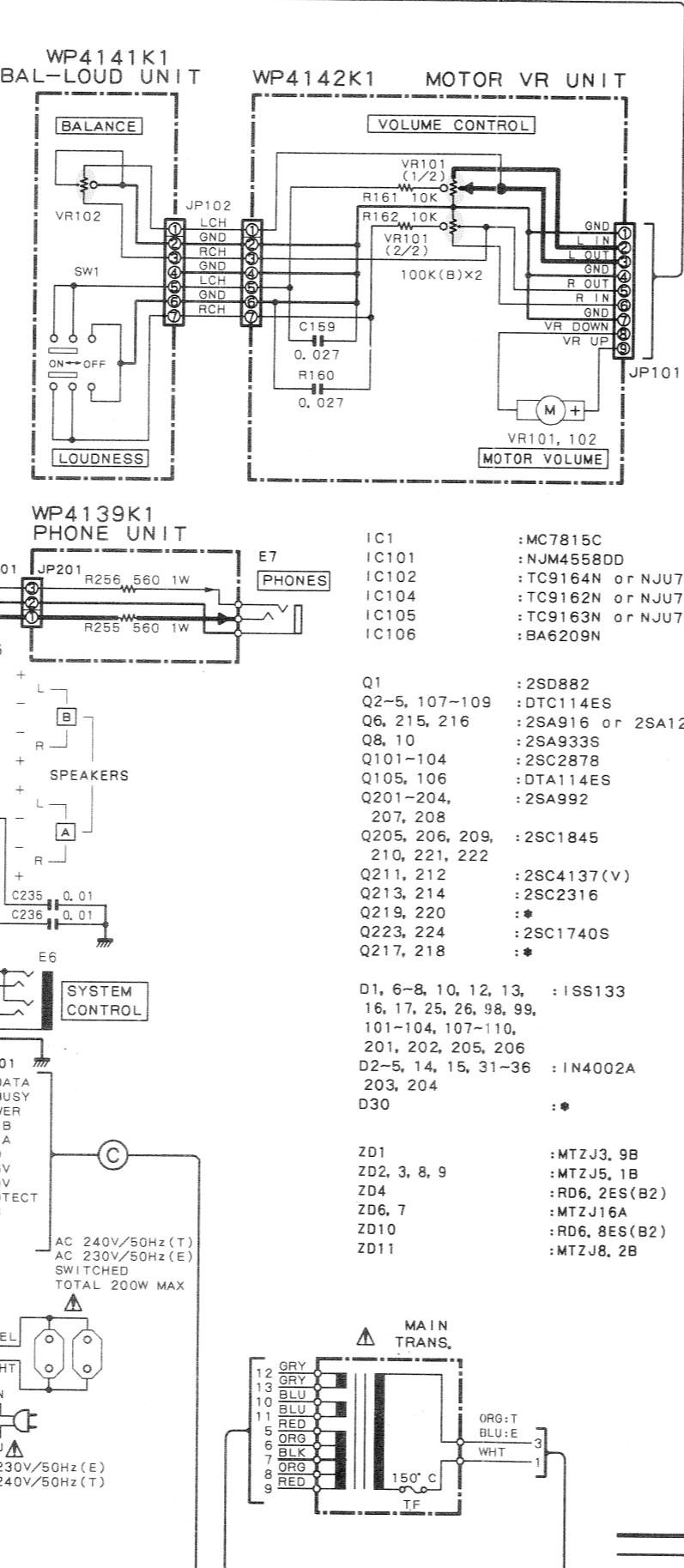
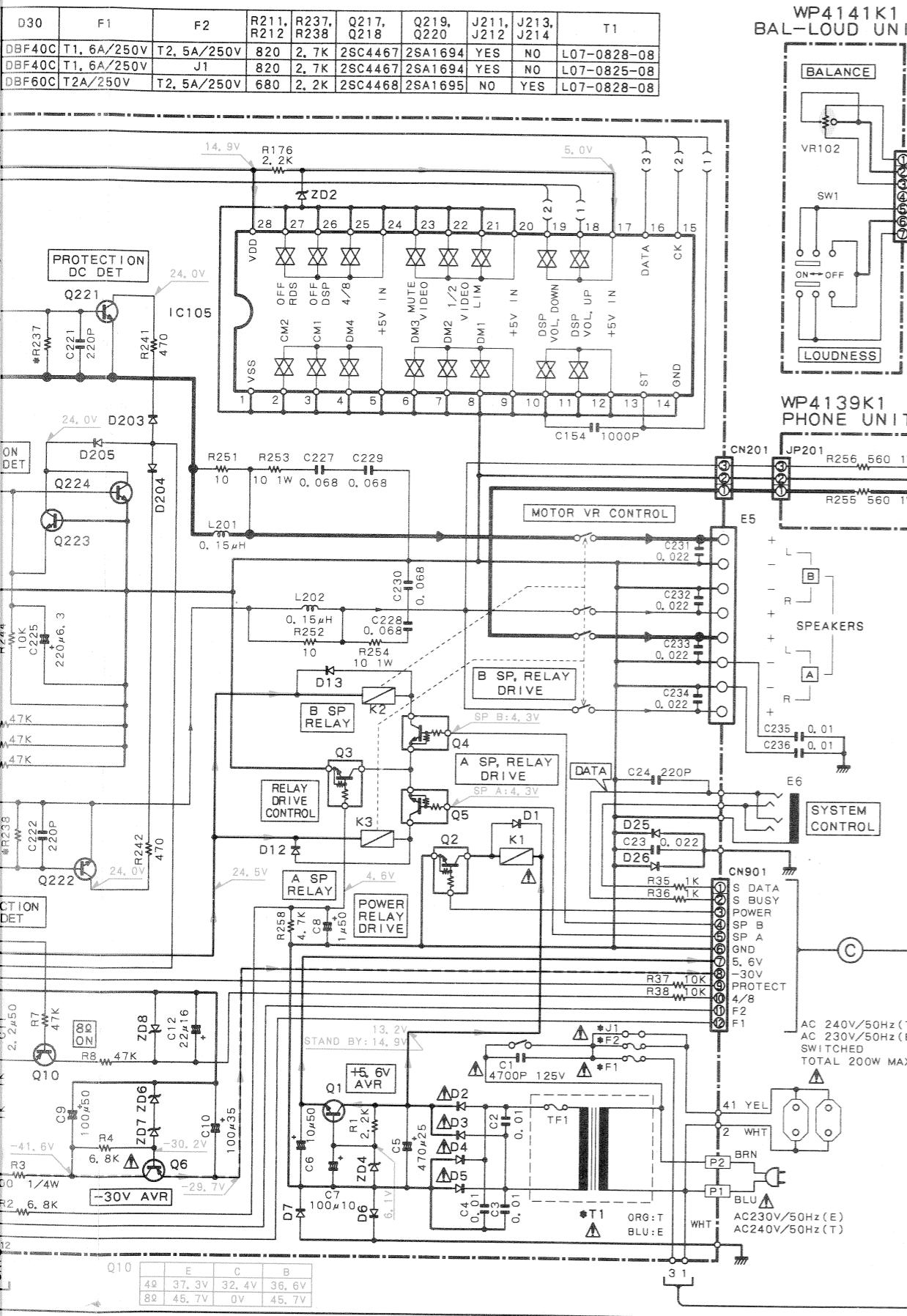
Q1 : 2SD882  
Q2~5, 107~109 : DTC114ES  
Q6, 215, 216 : 2SA916 or 2SA1274  
Q8, 10 : 2SA933S  
Q101~104 : 2SC2878  
Q105, 106 : DTA114ES  
Q201~204, 207, 208 : 2SA992  
Q205, 206, 209, 210, 221, 222 : 2SC1845  
Q211, 212 : 2SC4137(V)  
Q213, 214 : 2SC2316  
Q219, 220 : \*  
Q223, 224 : 2SC1740S  
Q217, 218 : \*

D1, 6~8, 10, 12, 13, 16, 17, 25, 26, 98, 99, 101~104, 107~110, 201, 202, 205, 206 D2~5, 14, 15, 31~36 : IN4002A 203, 204 D30 : \*

ZD1 : MTZJ3, 9B  
ZD2, 3, 8, 9 : MTZJ5, 1B  
ZD4 : RD6, 2ES(B2)  
ZD6, 7 : MTZJ16A  
ZD10 : RD6, 8ES(B2)  
ZD11 : MTZJ8, 2B

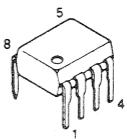
SIGNAL LINE  
GND LINE  
+B LINE  
-B LINE

AE AF AG AH AI AJ AK AL AM AN

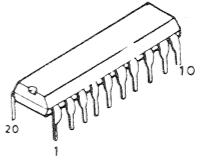


NJM4558DD

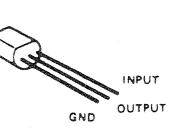
PST529C



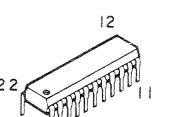
TDA7330A



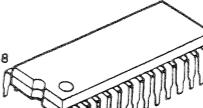
TC9162N  
TC9163N  
TC9164N



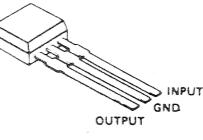
LA3401



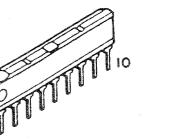
NJU7311L  
NJU7313L



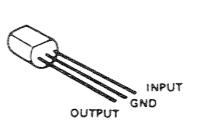
UPC78L05



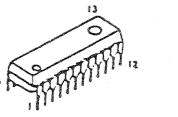
BA6209N



NJM78L05A



LA1266  
LC7218



IC1 : MC7815C  
IC101 : NJM4558DD  
IC102 : TC9164N or NJU7313L  
IC104 : TC9162N or NJU7311L  
IC105 : TC9163N or NJU7312AL  
IC106 : BA6209N

Q1 : 2SD882  
Q2~5, 107~109 : DTC114ES  
Q6, 215, 216 : 2SA916 or 2SA1274  
Q8, 10 : 2SA933S  
Q101~104 : 2SC2878  
Q105, 106 : DTA114ES  
Q201~204, 207, 208 : 2SA992  
Q205, 206, 209, 210, 221, 222 : 2SC1845  
Q211, 212 : 2SC4137(V)  
Q213, 214 : 2SC2316  
Q219, 220 : \*  
Q223, 224 : 2SC1740S  
Q217, 218 : \*

D1, 6~8, 10, 12, 13, 16, 17, 25, 26, 98, 99, 101~104, 107~110, 201, 202, 205, 206 : ISS133  
D2~5, 14, 15, 31~36 : IN4002A  
D30 : \*

ZD1 : MTZJ3, 9B  
ZD2, 3, 8, 9 : MTZJ5, 1B  
ZD4 : RD6, 2ES(B2)  
ZD6, 7 : MTZJ16A  
ZD10 : RD6, 8ES(B2)  
ZD11 : MTZJ8, 2B

• DC voltages are as measured with a high impedance voltmeter. Values may vary slightly due to variations between individual instruments or/and units.

**CAUTION :** For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list).  $\Delta$  Indicates safety critical components. To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.

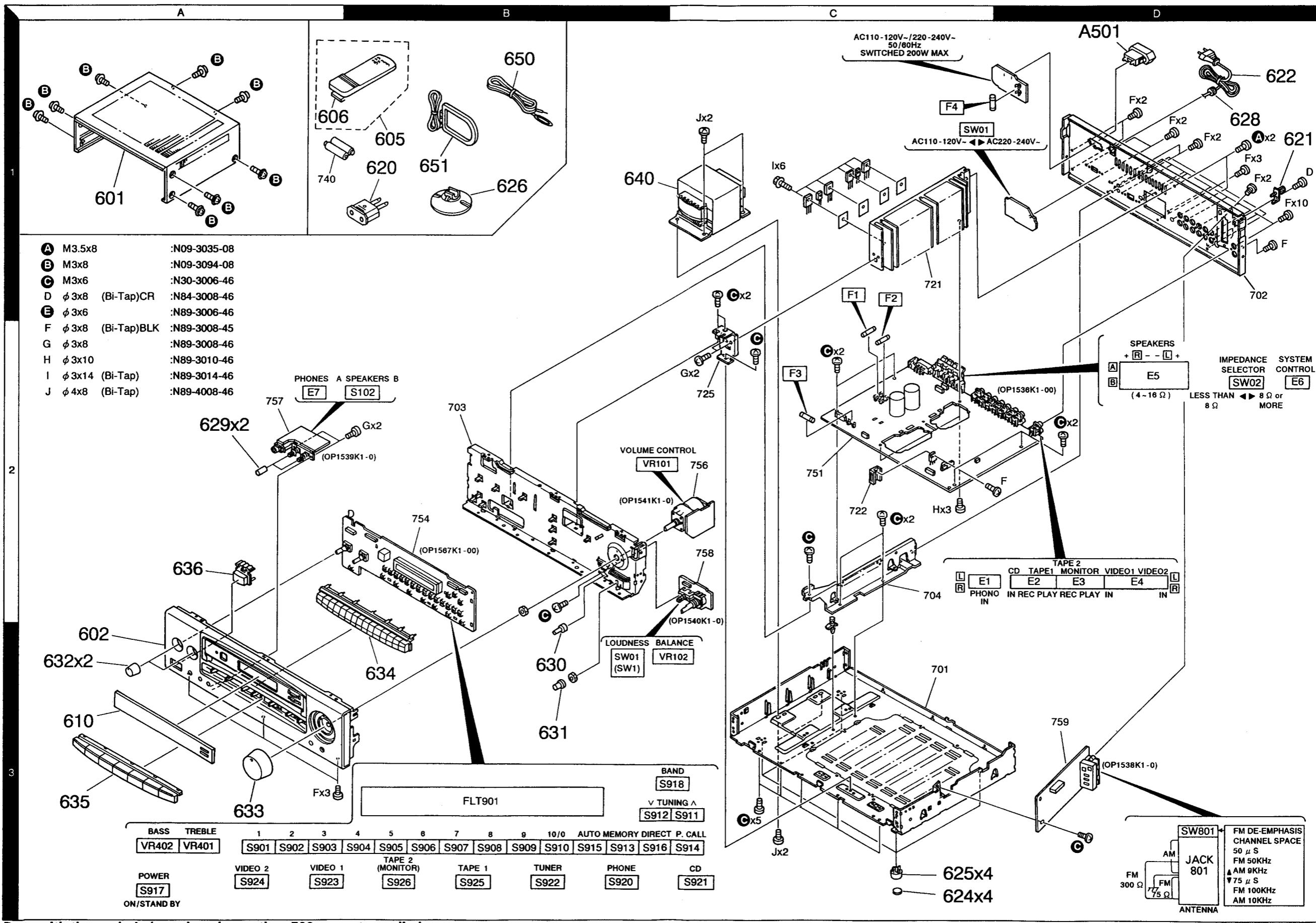
2/2 (E, T)

Y05-2880-10

KENWOOD

# KR-A4060 KR-A4060

## EXPLODED VIEW (UNIT)



Parts with the exploded numbers larger than 700 are not supplied.





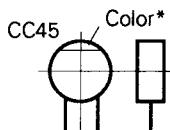
# KR-A4060

## PARTS LIST

### CAPACITORS

CC 45 TH 1H .220 J  
 1 2 3 4 5 6

1 = Type ... ceramic, electrolytic, etc. 4 = Voltage rating  
 2 = Shape ... round, square, ect. 5 = Value  
 3 = Temp. coefficient 6 = Tolerance



#### • Capacitor value

010 = 1pF  
 100 = 10pF  
 101 = 100pF  
 102 = 1000pF = 0.001μF  
 103 = 0.01μF

2 2 0 = 22pF  
 Multiplier  
 2nd number  
 1st number

#### • Temperature coefficient

1st Word	C	L	P	R	S	T	U
Color*	Black	Red	Orange	Yellow	Green	Blue	Violet
ppm/°C	0	-80	-150	-220	-330	-470	-750

2nd Word	G	H	J	K	L
ppm/°C	±30	±60	±120	±250	±500

Example : CC45TH = -470 ± 60 ppm/°C

#### • Tolerance (More than 10pF)

Code	C	D	G	J	K	M	X	Z	P	No code
(%)	±0.25	±0.5	±2	±5	±10	±20	+40	+80	+100	More than 10μF - 10 ~ +50
							-20	-20	-0	Less than 4.7μF - 10 ~ +75

#### (Less than 10pF)

Code	B	C	D	F	G
(pF)	±0.1	±0.25	±0.5	±1	±2

#### • Voltage rating

2nd word	A	B	C	D	E	F	G	H	J	K	V
1st word											
0	1.0	1.25	1.6	2.0	2.5	3.15	4.0	5.0	6.3	8.0	-
1	10	12.5	16	20	25	31.5	40	50	63	80	35
2	100	125	160	200	250	315	400	500	630	800	-
3	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	-

#### • Chip capacitors

(EX) C C 7 3 F S L 1 H 0 0 0 J  
 1 2 3 4 5 6 7  
 (Chip) (CH, RH, UJ, SL)

(EX) C K 7 3 F F 1 H 0 0 0 Z  
 1 2 3 4 5 6 7  
 (Chip) (B, F)

Refer to the table above.

1 = Type  
 2 = Shape  
 3 = Dimension  
 4 = Temp. coefficient  
 5 = Voltage rating  
 6 = Value  
 7 = Tolerance

#### Dimension (Chip capacitors)

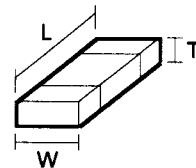
Dimension code	L	W	T
Empty	5.6 ± 0.5	5.0 ± 0.5	Less than 2.0
A	4.5 ± 0.5	3.2 ± 0.4	Less than 2.0
B	4.5 ± 0.5	2.0 ± 0.3	Less than 2.0
C	4.5 ± 0.5	1.25 ± 0.2	Less than 1.25
D	3.2 ± 0.4	2.5 ± 0.3	Less than 1.5
E	3.2 ± 0.2	1.6 ± 0.2	Less than 1.25
F	2.0 ± 0.3	1.25 ± 0.2	Less than 1.25
G	1.6 ± 0.2	0.8 ± 0.2	Less than 1.0

## RESISTORS

#### • Chip resistor (Carbon)

(EX) R K 7 3 E B 2 B 0 0 0 J  
 1 2 3 4 5 6 7  
 (Chip) (B, F)

#### Dimension



#### • Carbon resistor (Normal type)

(EX) R D 1 4 B B 2 C 0 0 0 J  
 1 2 3 4 5 6 7

1 = Type  
 2 = Shape  
 3 = Dimension  
 4 = Temp. coefficient  
 5 = Rating wattage  
 6 = Value  
 7 = Tolerance

#### Dimension (Chip resistor)

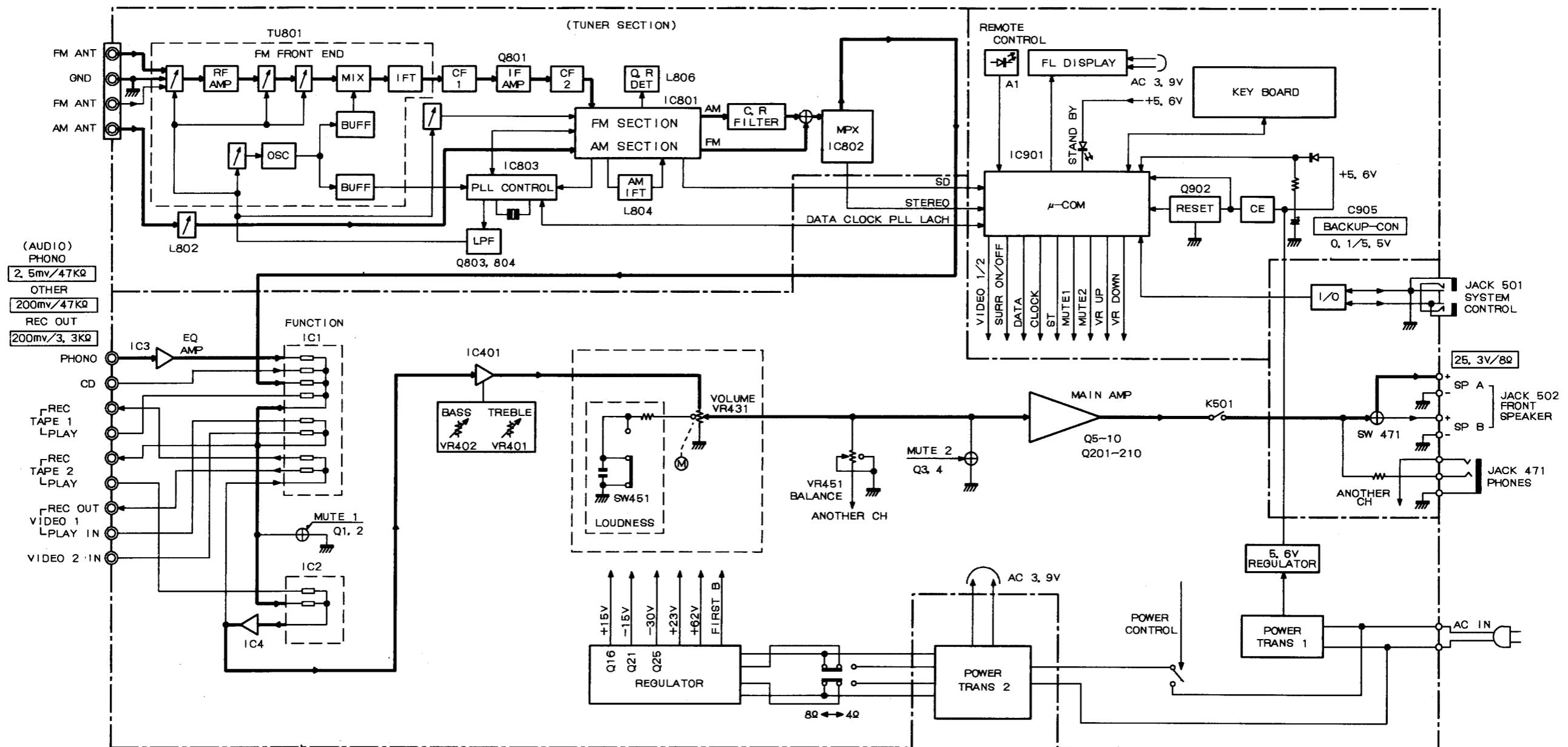
Dimension code	L	W	T
E	3.2 ± 0.2	1.6 ± 0.2	1.0
F	2.0 ± 0.3	1.25 ± 0.2	1.0
G	1.6 ± 0.2	0.8 ± 0.2	0.5 ± 0.1

#### Rating wattage

Code	Wattage	Code	Wattage	Code	Wattage
1J	1/16W	2C	1/6W	3A	1W
2A	1/10W	2E	1/4W	3D	2W
2B	1/8W	2H	1/2W		

# KR-A5060 KR-A5060

## BLOCK DIAGRAM



EXCEPT E.T

# KR-A5060

## ADJUSTMENT

**AM section : If alignment point is "-", confirm the value. If not, replace the front end pack.**

No.	ITEM	INPUT SETTINGS	OUTPUT SETTINGS	TUNER SETTINGS	ALIGNMENT POINTS	ALIGN FOR	FIG.
<b>FM SECTION</b> <b>SELECTOR: FM</b>							
1	DISCRIMINATOR	(A) 98.0MHz 1kHz, ±75kHz dev. 60dB $\mu$ (ANT. input)	Connect a DC voltmeter between TP803 and TP804. (TUNER UNIT)	AUTO or MONO 98.0MHz	L806 (TUNER UNIT)	OV.	(a)
2	VCO	(A) 98.0MHz 0 dev. 60dB $\mu$ (ANT. input)	Connect a frequency counter between TP805 and TP806. (TUNER UNIT)	AUTO 98.0MHz	L802 (TUNER UNIT)	19.00kHz	(b)
3	DISTORTION (STEREO)	(C) 98.0MHz 1kHz, ±68.25kHz dev. Selector : L or R Pilot : ±6.75kHz dev. 60dB $\mu$ (ANT. input)	(B)	98.0MHz	IFT (W02-)	Minimum distortion. (L or R)	
4	TUNING LEVEL	(A) 98.0MHz 0 dev. 18dB $\mu$ (ANT. input)	(B)	AUTO or MONO 98.0MHz	VR801 (TUNER UNIT)	Adjust VR801 and stop at the point where FLT901 (TUNED) goes on.	
<b>AM SECTION</b> <b>SELECTOR: AM</b>							
(1)	TUNING LEVEL	(D) 1000 (999) kHz 26dB $\mu$ (ANT. input)	(B)	-	VR804 (TUNER UNIT)	Adjust VR804 and stop at the point where FLT901 (TUNED) goes on.	
<b>AUDIO SECTION</b>							
<1>	IDLE CURRENT	-	Connect a DC voltmeter across CP1 (L), CP2 (R) (MAIN UNIT)	Volume : 0	VR1 (L) VR2 (R) (AUDIO UNIT)	10mV	(d)

# KR-A5060

## AJUSTES

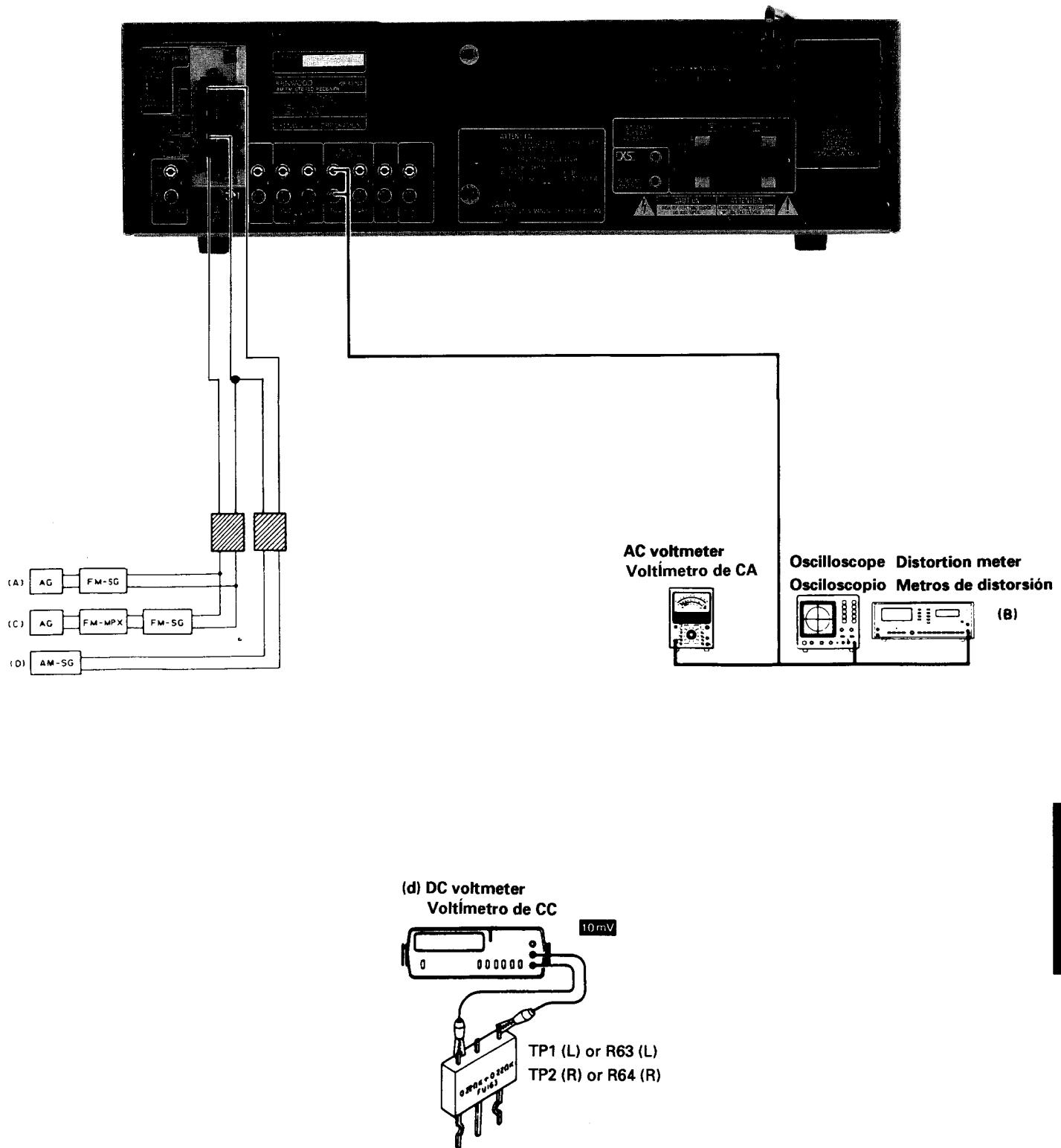
**Sección de AM : Si el punto de alineación es "-", confirme el valor. Si no, reemplace el paquete de entrada.**

Núm.	ÍTEM	AJUSTES DE ENTRADA	AJUSTES DE SALIDA	AJUSTES DEL SINTONIZADOR	PUNTOS DE ALINEACIÓN	ALINEACIÓN PARA	FIG.
<b>SECCIÓN DE FM</b> <b>SELECTOR: FM</b>							
1	DISCRIMINADOR	(A) 98.0MHz 1kHz, ±75kHz dev. 60dB $\mu$ (Entrada de antena)	Conecte un voltímetro de CC entre TP803 y TP804. (UNIDAD DEL SINTONIZADOR)	AUTO o MONO 98.0MHz	L806 (UNIDAD DEL SINTONIZADOR)	OV.	(a)
2	VCO	(A) 98.0MHz 0 dev. 60dB $\mu$ (Entrada de antena)	Conecte un Frecuencímetro entre TP805 y TP806. (UNIDAD DEL SINTONIZADOR)	AUTO 98.0MHz	L802 (UNIDAD DEL SINTONIZADOR)	19.00kHz	(b)
3	DISTORSIÓN (ESTÉREO)	(C) 98.0MHz 1kHz, ±68.25kHz dev. Selector : L or R Pilot : ±6.75kHz dev. 60dB $\mu$ (Entrada de antena)	(B)	98.0MHz	IFT (W02-)	Distorsión mínima. (L o R)	
4	NIVEL DE SINTONÍA	(A) 98.0MHz 0 dev. 18dB $\mu$ (Entrada de antena)	(B)	AUTO o MONO 98.0MHz	VR801 (UNIDAD DEL SINTONIZADOR)	Ajuste VR801 y pare en el punto en el que se encienda FLT 901 (SINTONIZADO).	
<b>SECCIÓN DE AM</b> <b>SELECTOR: AM</b>							
(1)	NIVEL DE SINTONÍA	(D) 1000 (999) kHz 26dB $\mu$ (Entrada de antena)	(B)	-	VR804 (UNIDAD DEL SINTONIZADOR)	Ajuste VR804 y pare en el punto en el que se encienda FLT 901 (SINTONIZADO).	
<b>SECCIÓN DE AUDIO</b>							
<1>	CORRIENTE EN REPOSO	-	Conecte un voltímetro de CC entre TP1 (L) y TP2 (R) (UNIDAD PRINCIPAL)	Volumen : 0	VR1 (L) VR2 (R) (UNIDAD AUDIO)	10mV	(d)

EXCEPT E.T

## ADJUSTMENT/AJUSTES

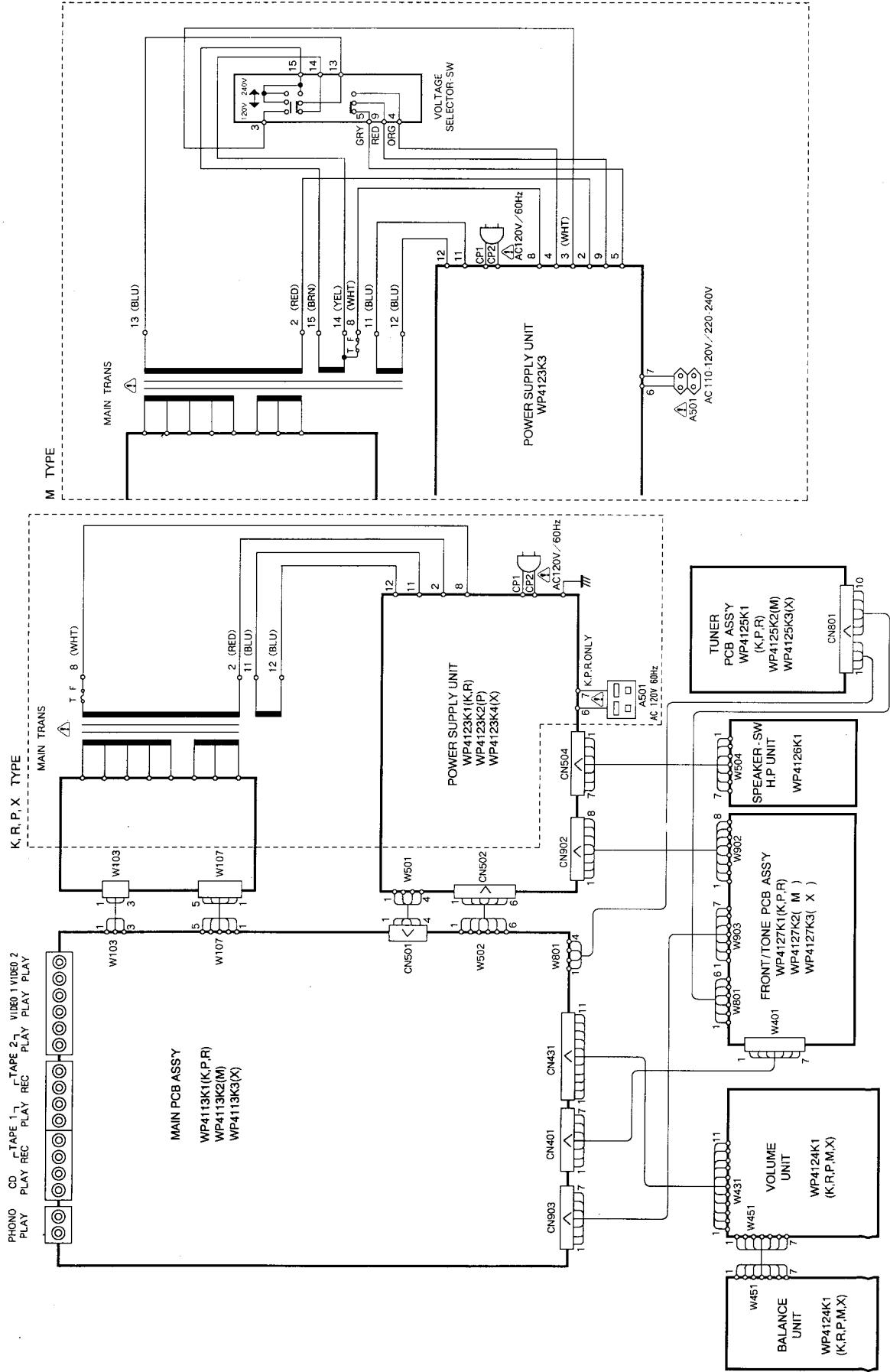
### SYSTEM CONNECTIONS/CONEXIONES DEL SISTEMA



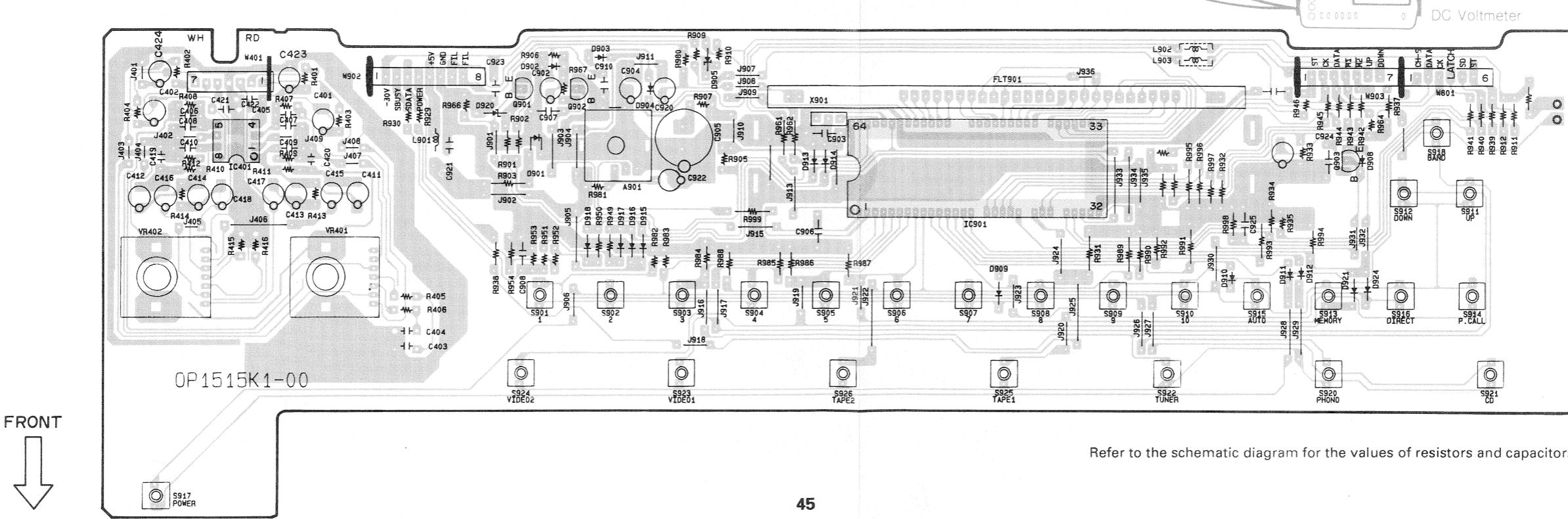
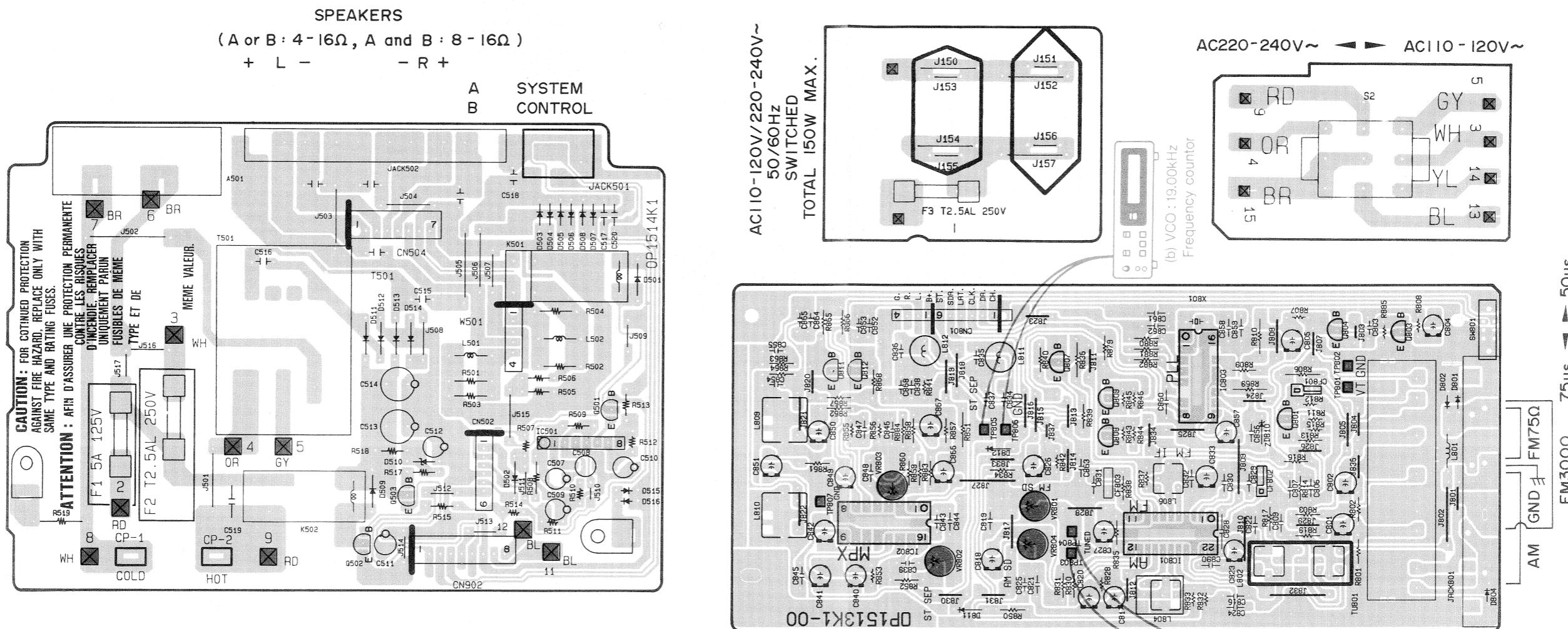
**KR-A5060**

# **WIRING DIAGRAM**

EXCEPT E,T



# PC BOARD (COMPONENT SIDE VIEW) : KR-A5060



Refer to the schematic diagram for the values of resistors and capacitors.

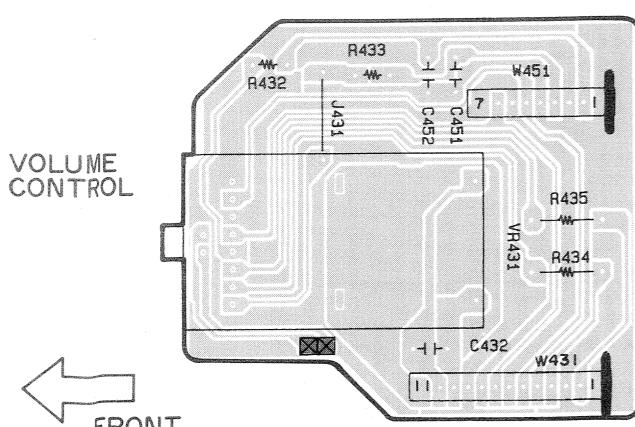
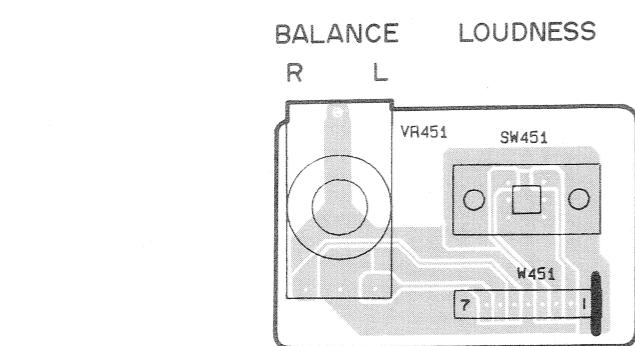
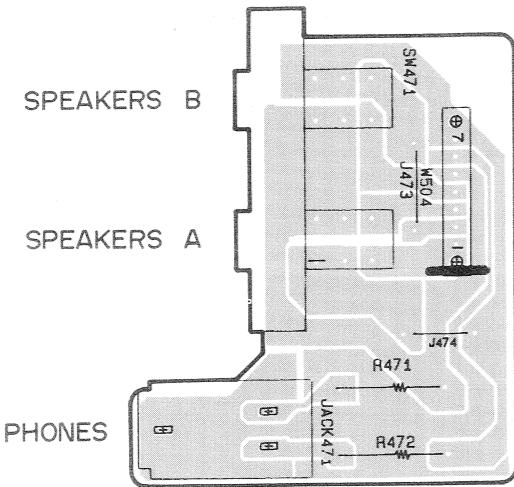
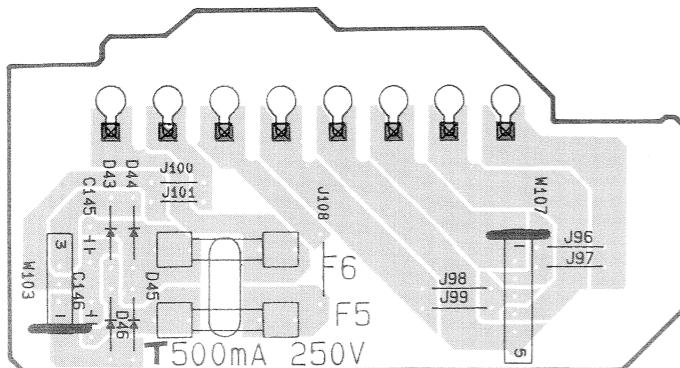
DE - EMPHASIS  
CHANNEL SPACE

FM300Ω 75μs → 50μs

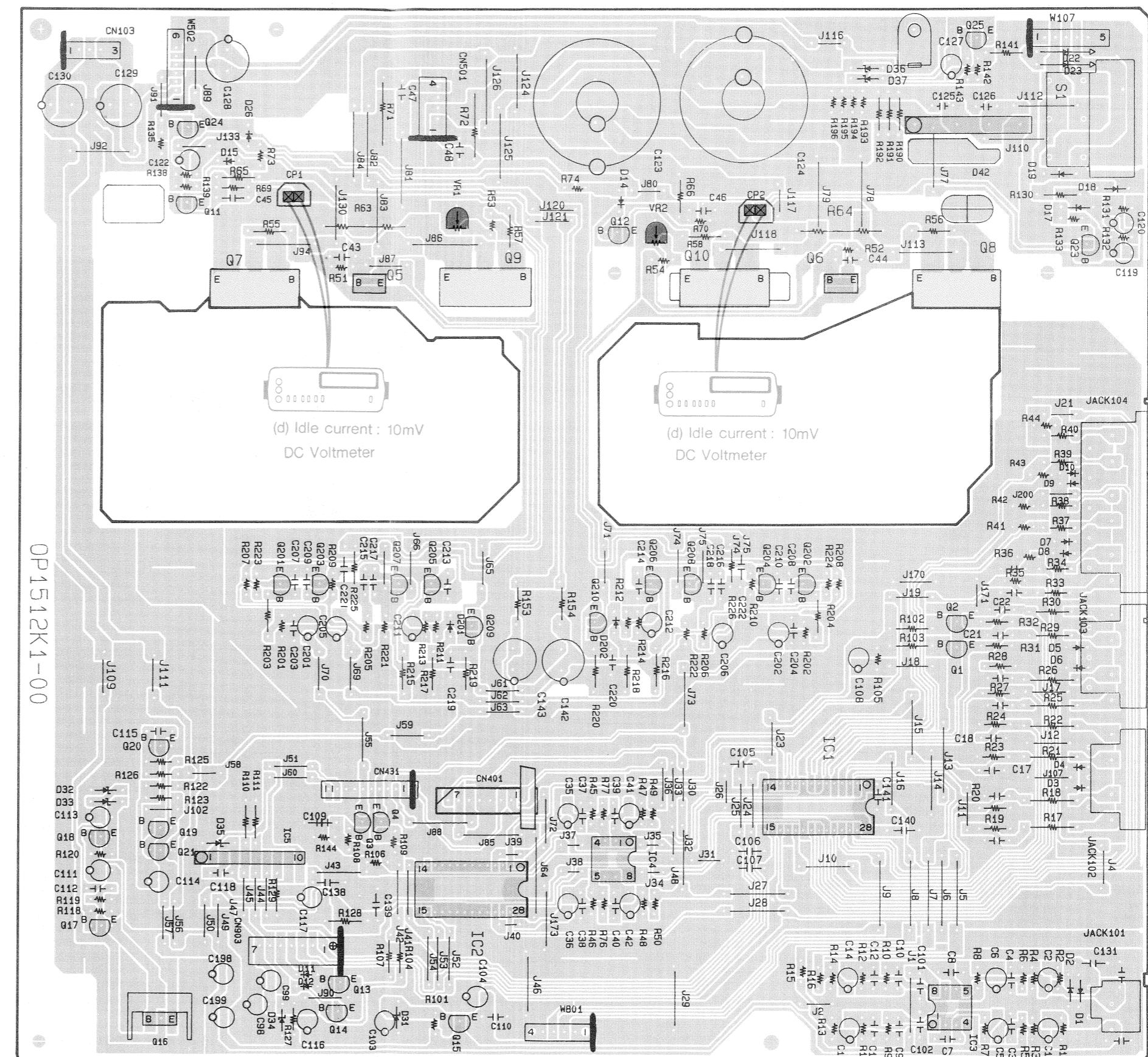
AM10KHz AM9KHz FM50KHz

EXCEPT T

## PC BOARD (COMPONENT SIDE VIEW) : KR-A5060

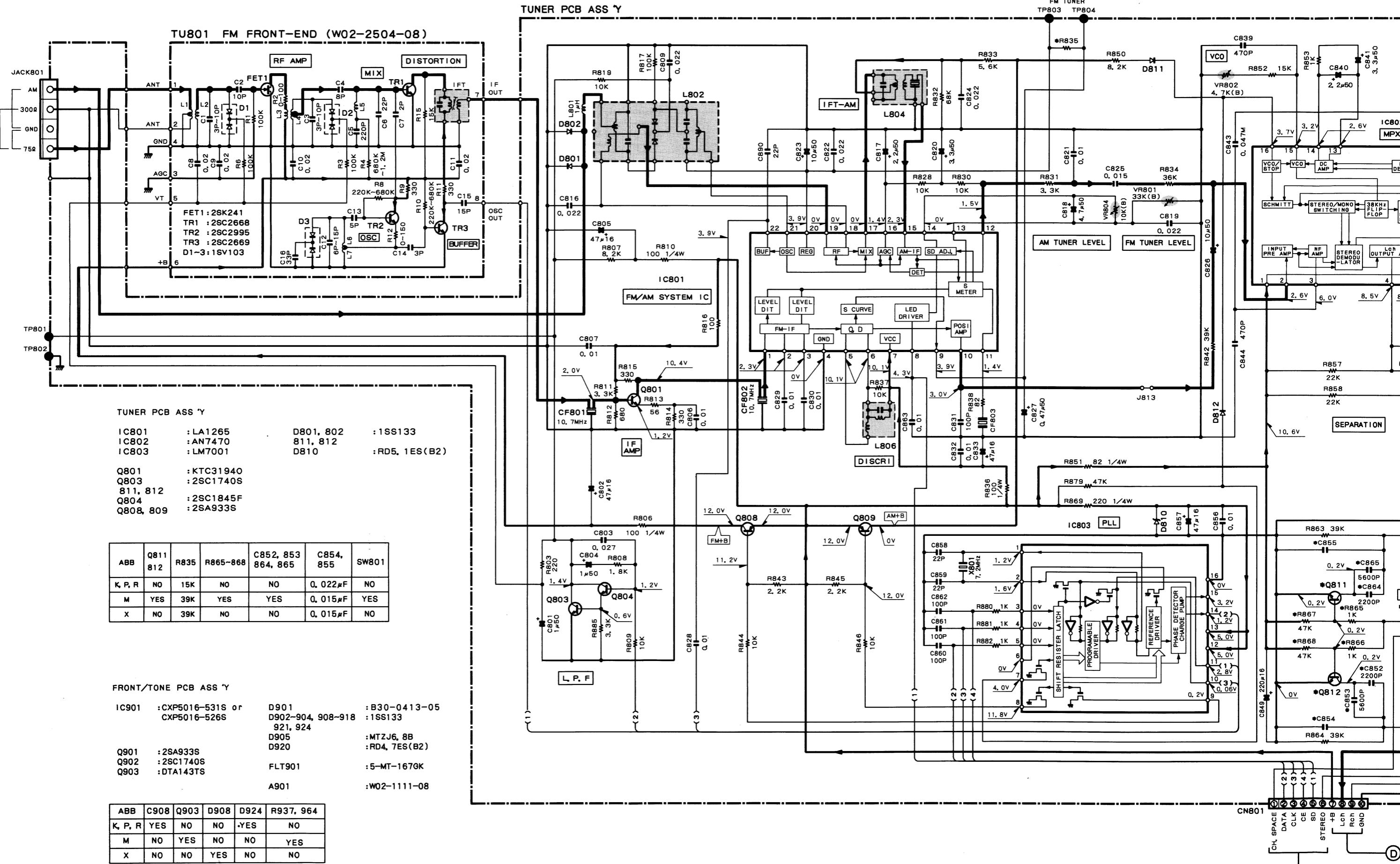


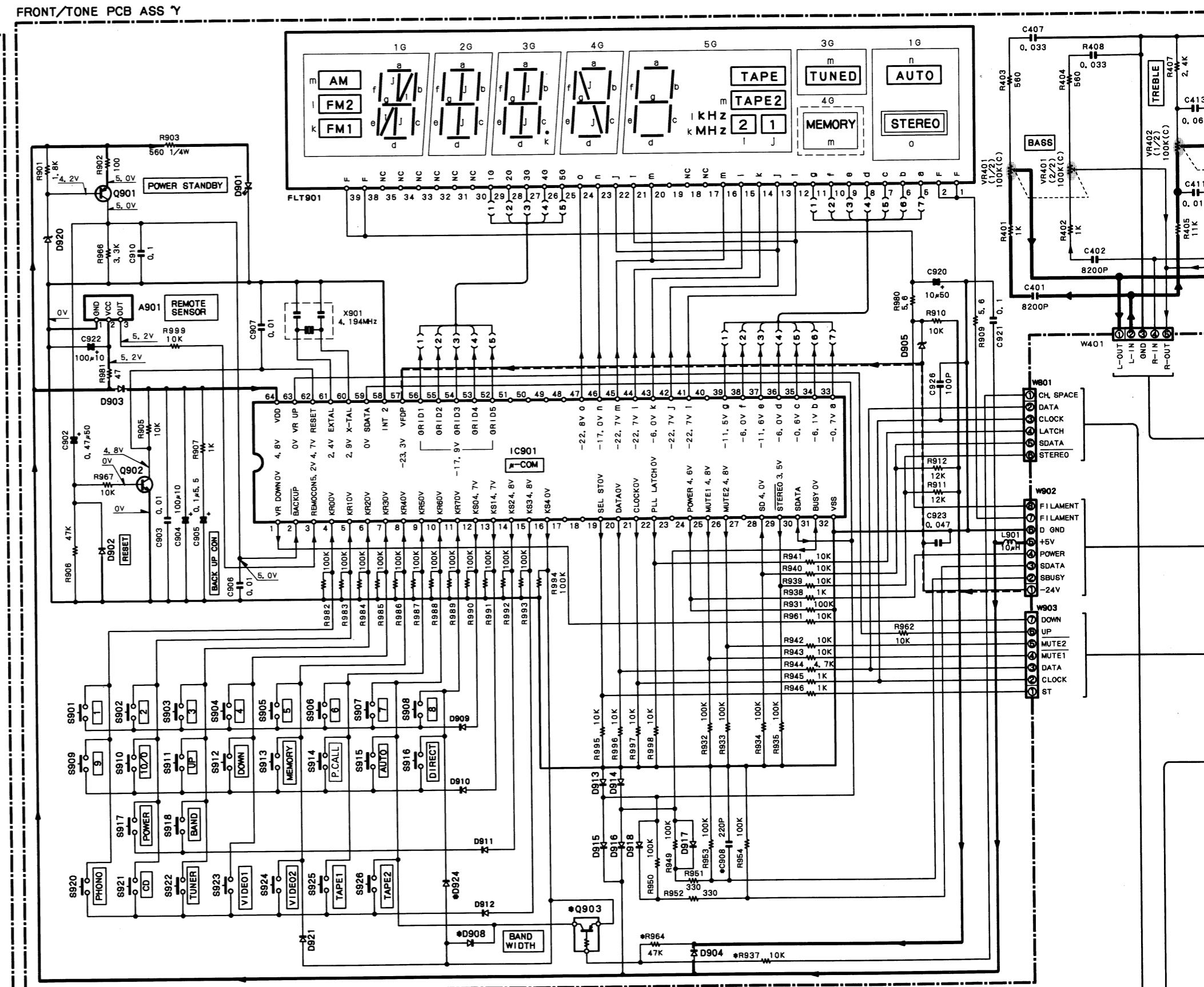
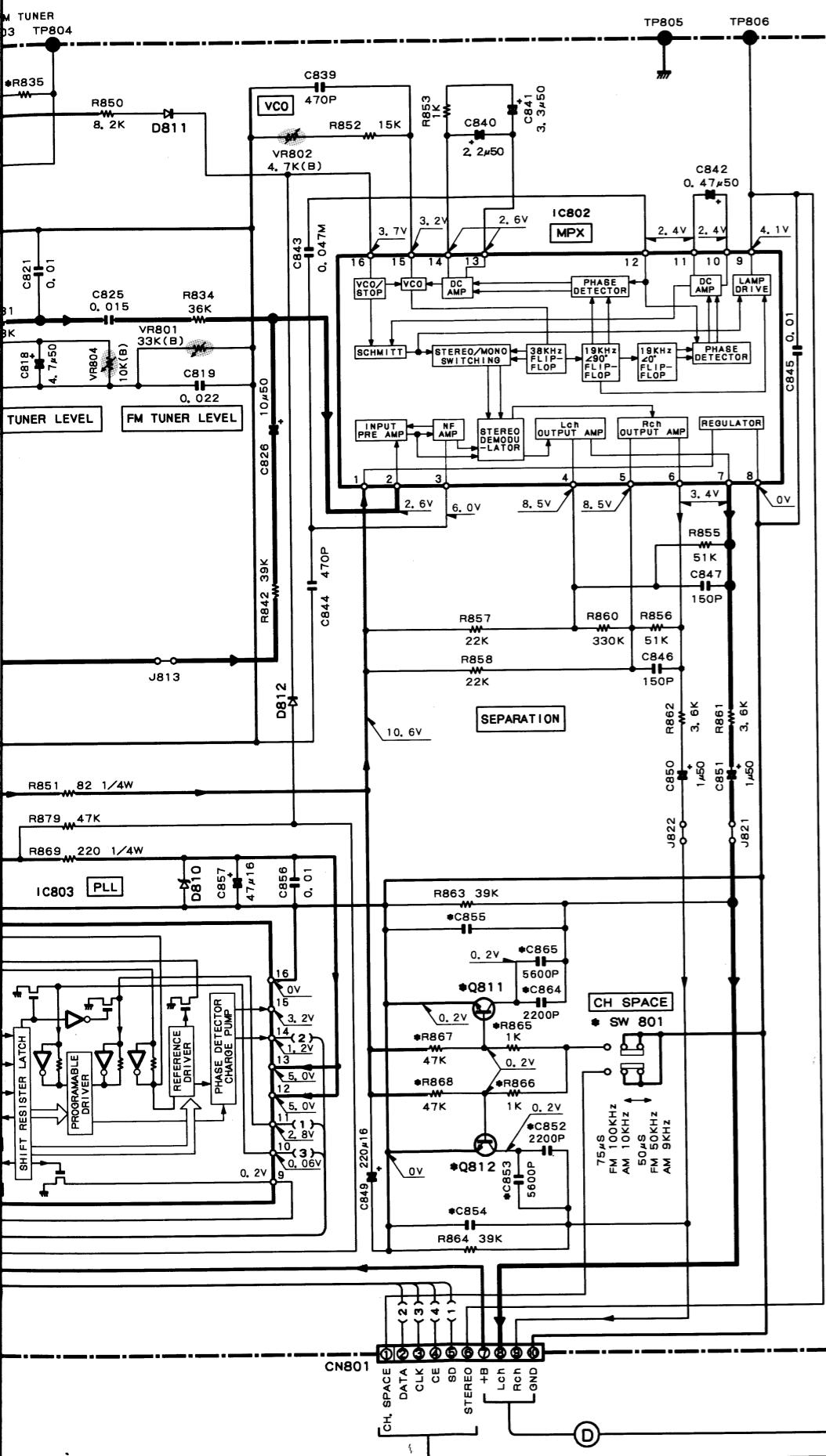
47 FRONT

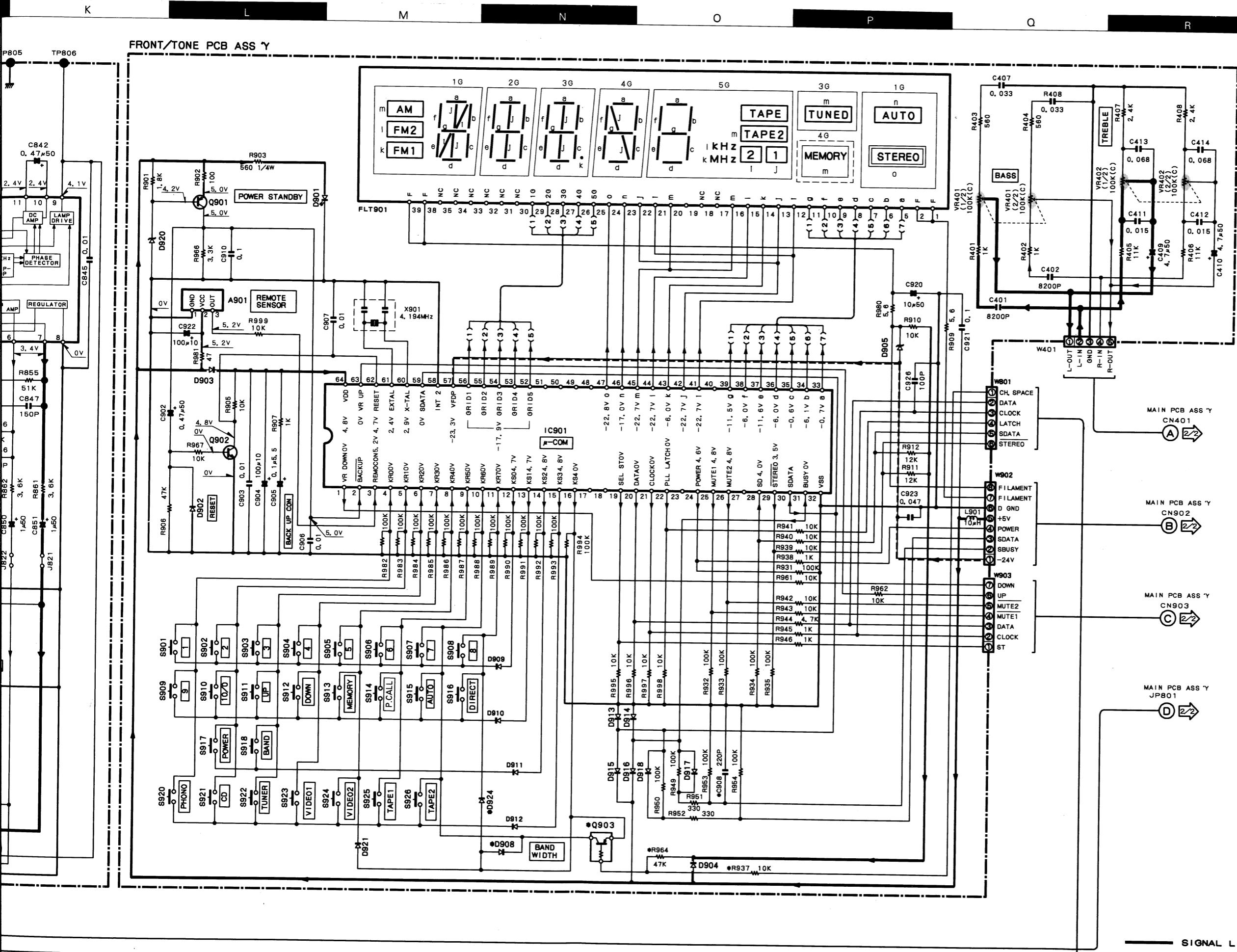


OP1512K1-00

**EXCEPT E,T**







2SA992  
2SC1845  
2SC2878



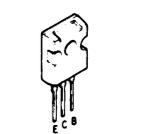
2SA1695



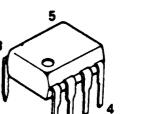
DTA143TS  
DTC114ES  
2SA933  
2SA933S  
2SC1740S



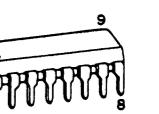
2SC4137



NJM4558D



A.3.3-2.3.4



- DC voltages are as measured with a high impedance voltmeter. Values may vary slightly due to variations between individual instruments or/and units.

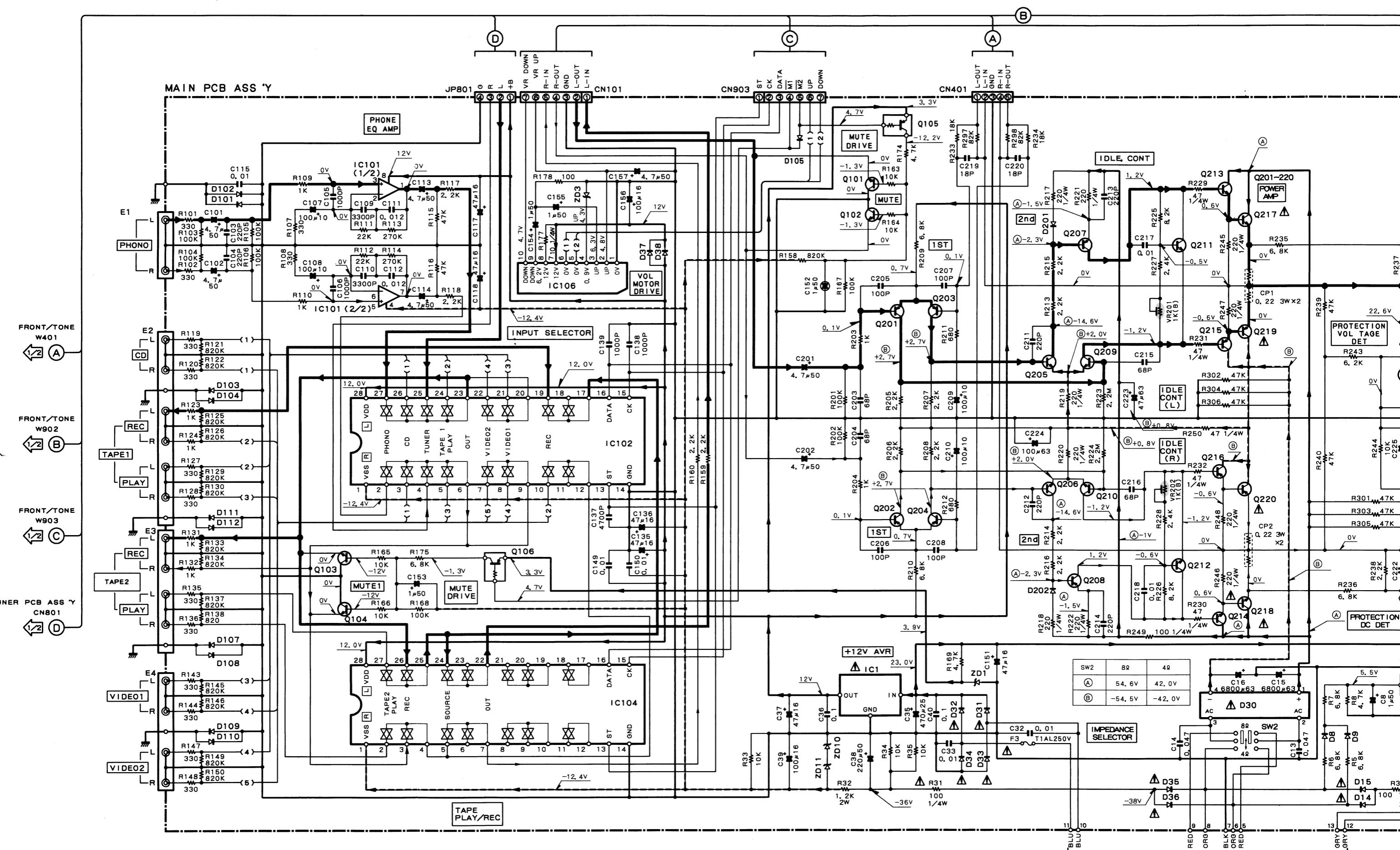
**CAUTION :** For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list).  $\Delta$  Indicates safety critical components. To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.

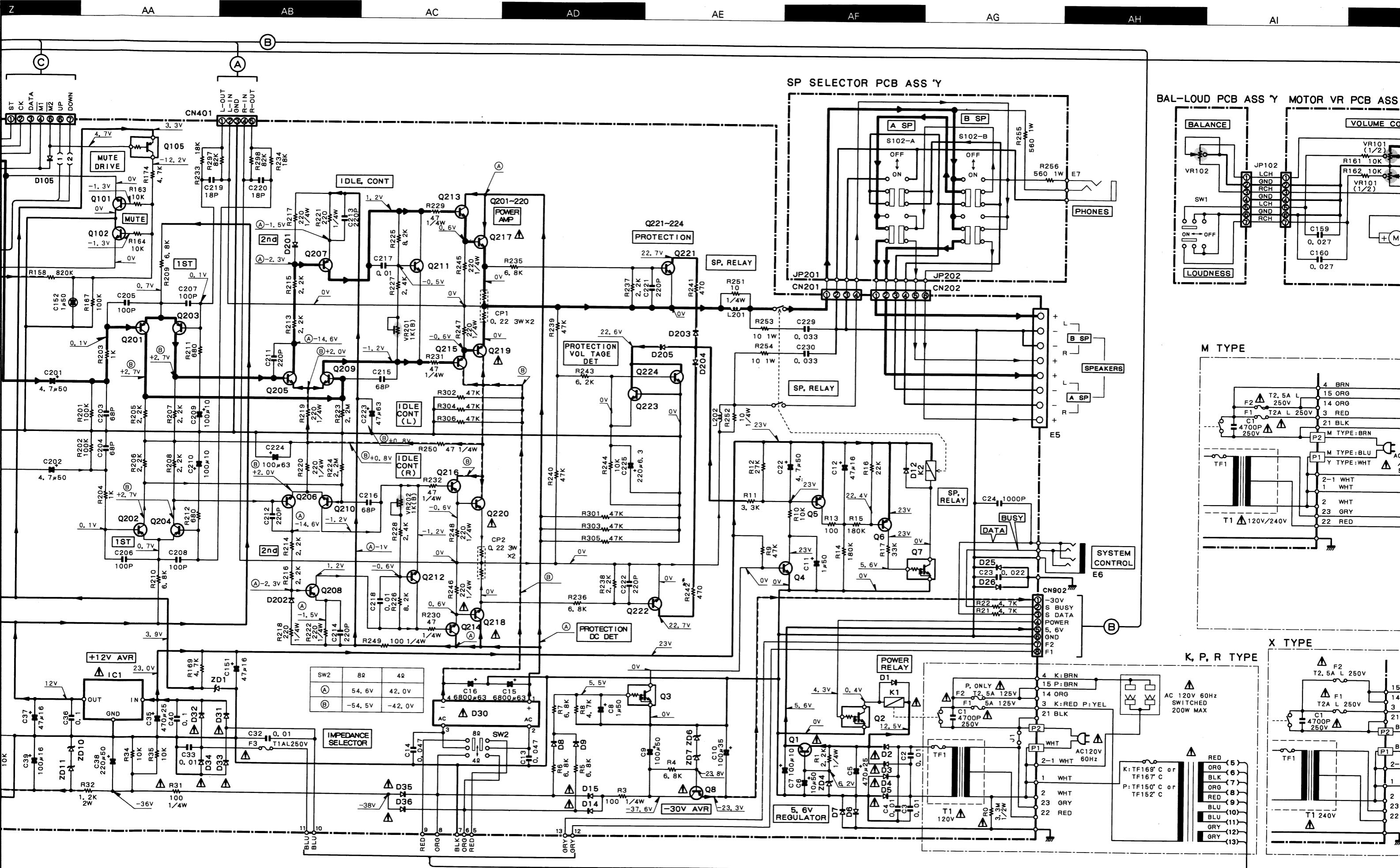
**SIGNAL LINE**  
**+B LINE**  
**-B LINE**  
**GND LINE**

1/2 (Except E, T)  
Y05-2880-10

# KR-A4060

## KENWOOD





AE

AF

AG

AH

AI

AJ

AK

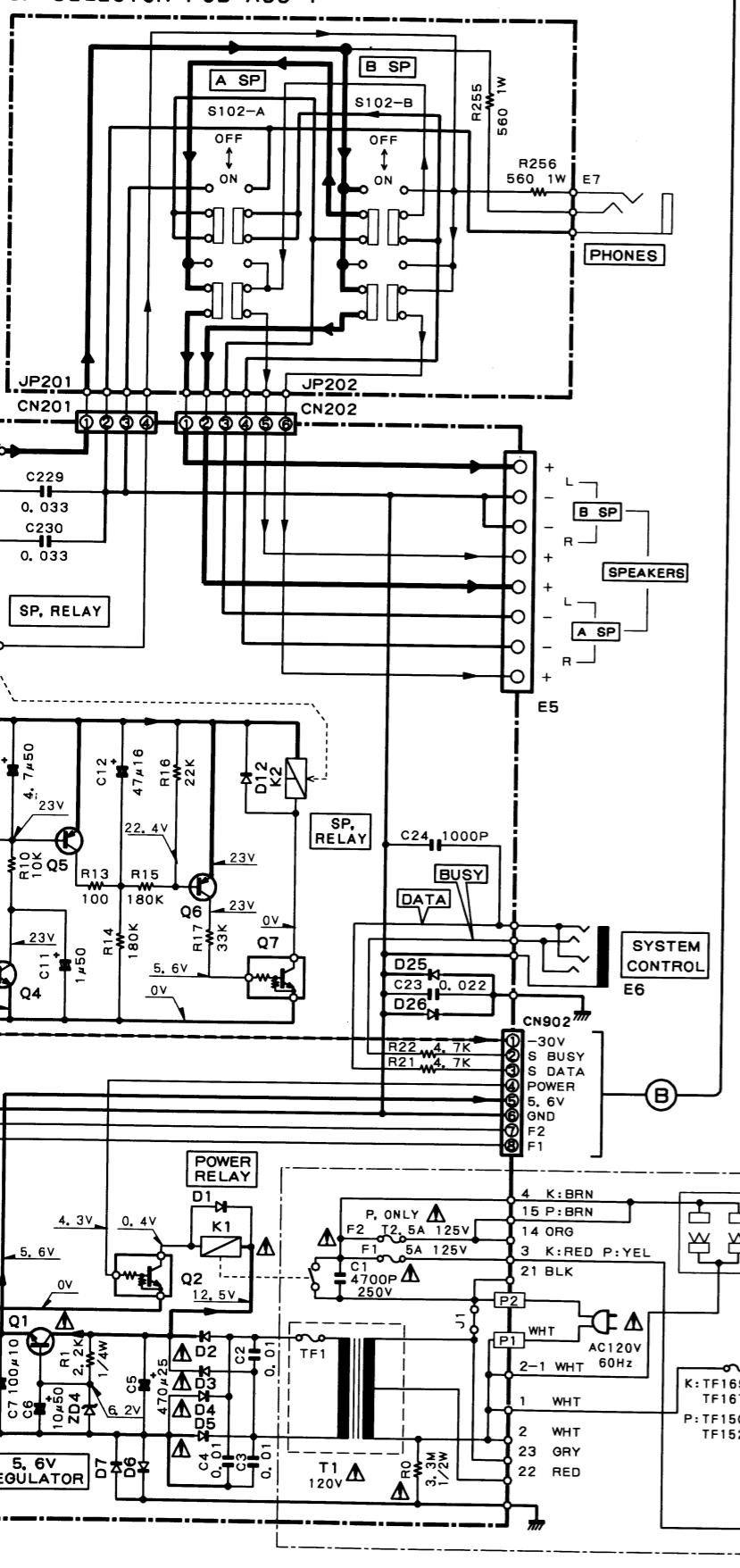
AL

AM

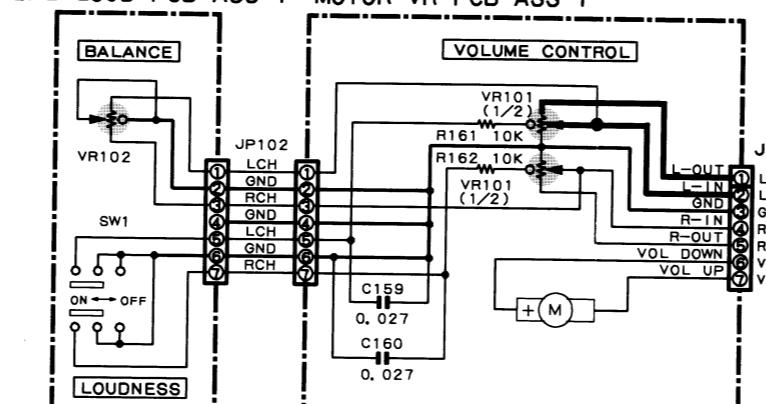
AN

AN7470

## SP SELECTOR PCB ASS 'Y



## BAL-LOUD PCB ASS 'Y' MOTOR VR PCB ASS 'Y'



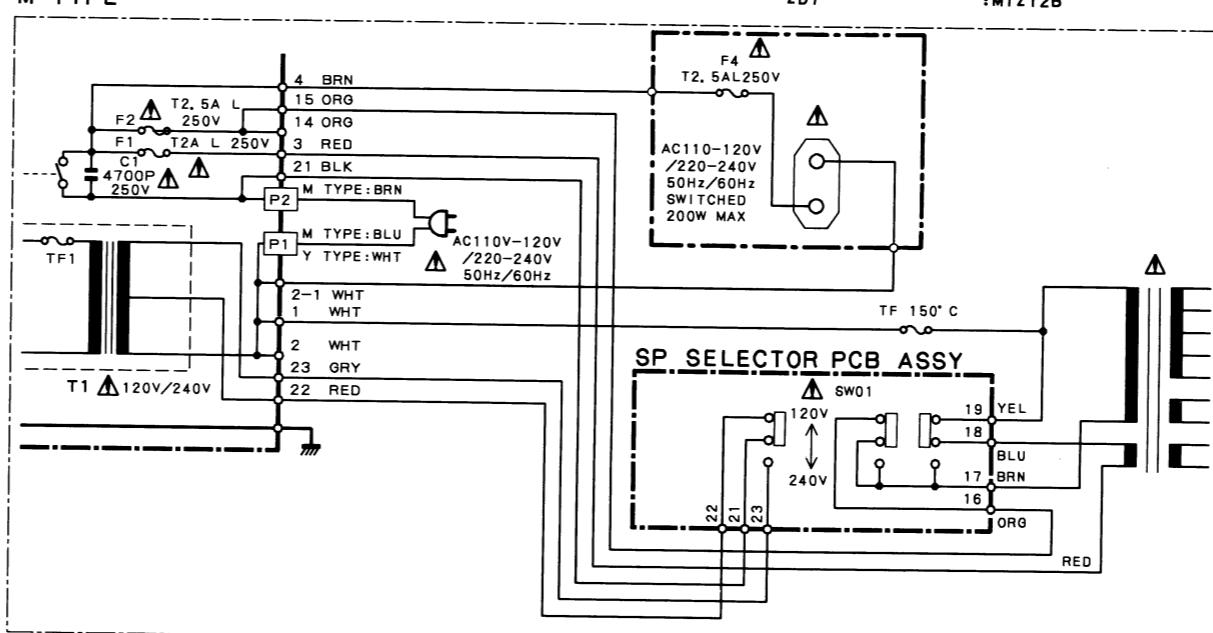
IC1 : KIA78012AP  
IC101 : NJM4558DD  
IC102 : NJU7313L or TC9164N  
IC104 : NJU7311L or TC9162N  
IC106 : BA6209N

Q1, 213, 214 : 2SC2316  
Q2, 3, 7 : DTC114ES  
Q4, 223, 224 : 2SC1740S  
Q5, 6 : 2SA933  
Q8, 215, 216 : 2SA916  
Q101-104 : 2SC2878  
Q105, 106 : DTA114TS  
Q201-204, 207, 208 : 2SA992  
Q205, 206, 209 : 2SC1845  
210, 221, 222 : 2SC4137  
Q211, 212 : 2SA4468  
Q217, 218 : 2SA1695  
Q219, 220 : 2SA1695

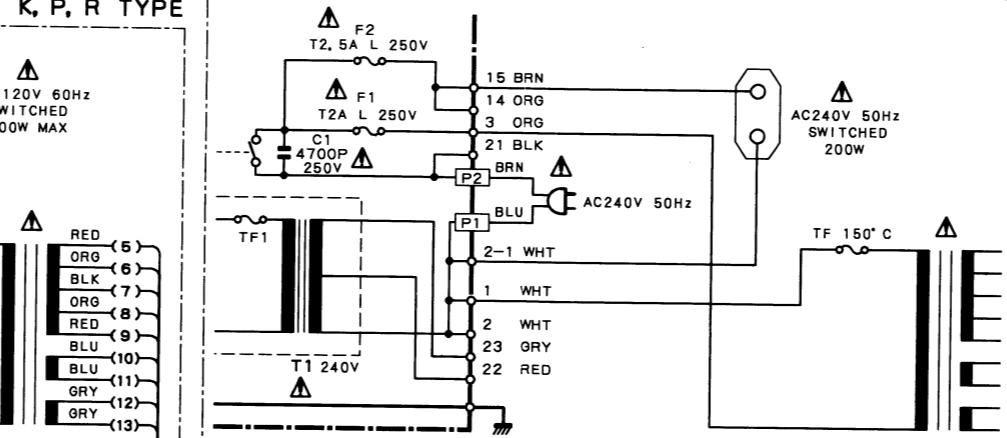
D1, 6-9, 12, 25, 26 : 1SS131  
37, 38, 101-105 : 107-112, 201-205  
D2-5, 14, 15, 31-36 : 1N4002A

D30 :  
ZD1 : MTZJ3, 9B  
ZD3 : MTZJ5, 1B  
ZD4, 10, 11 : MTZJ6, 2B  
ZD6 : RD15ES(B2)  
ZD7 : MTZ12B

## M TYPE

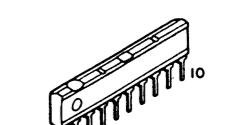
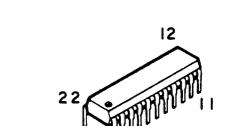
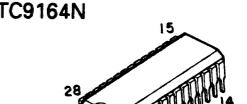
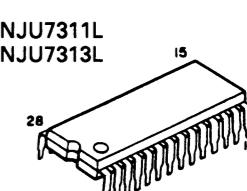
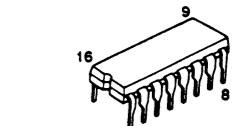


## X TYPE



SIGNAL LINE  
GND LINE  
+B LINE  
-B LINE

KR-A4060  
KENWOOD

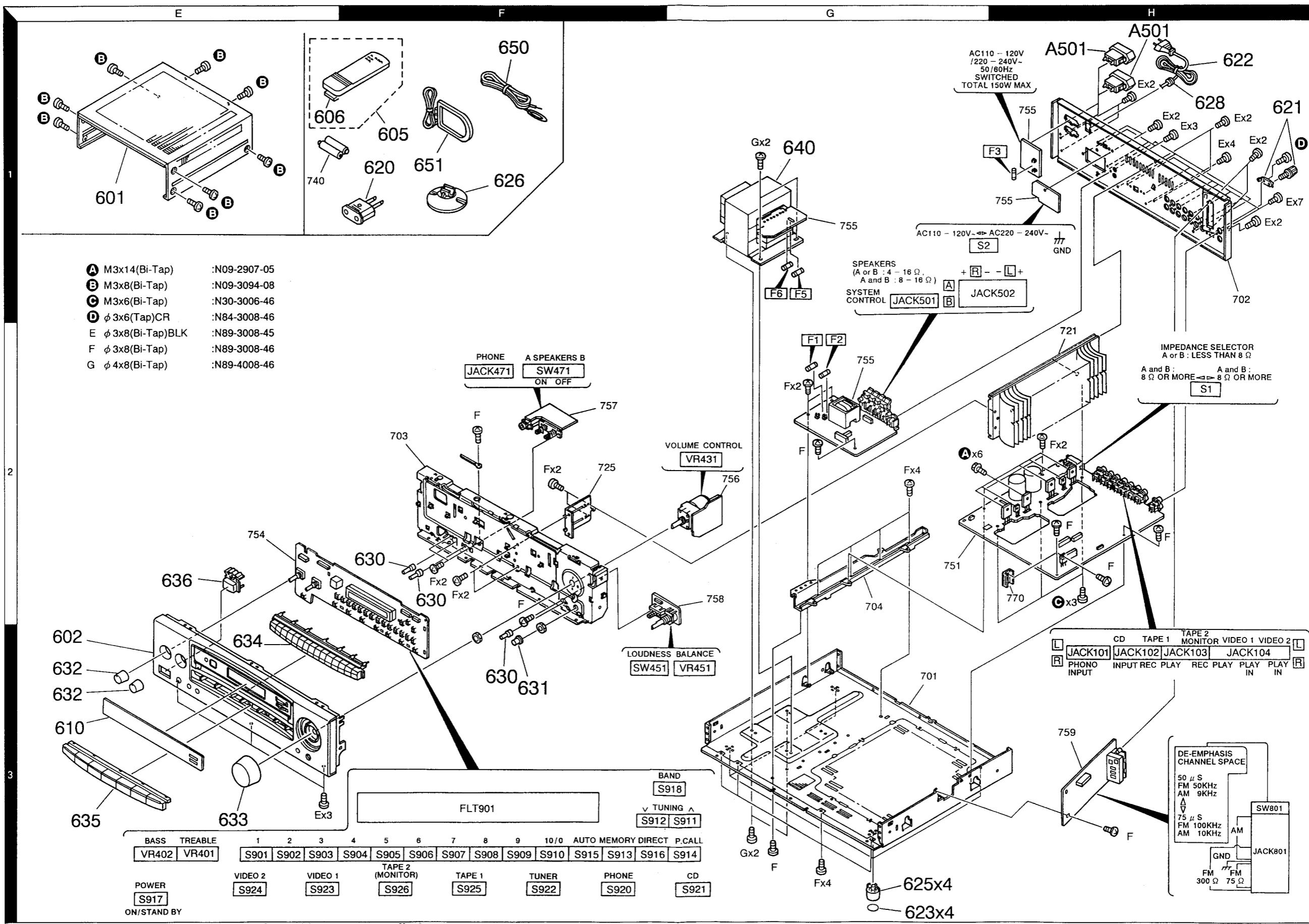


• DC voltages are as measured with a high impedance voltmeter. Values may vary slightly due to variations between individual instruments or/and units.

**CAUTION:** For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list).  $\Delta$  Indicates safety critical components. To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.

# KR-A5060 KR-A5060

## EXPLODED VIEW (UNIT)



Parts with the exploded numbers larger than 700 are not supplied.

## EXCEPT E,T

× New Parts  
Parts without Parts No. are not supplied.  
Les articles non mentionnés dans le Parts No. ne sont pas fournis.  
Teile ohne Parts No. werden nicht geliefert.

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Ref. No.	Address	Part No.	部品番号	Description	部品名 / 规格	Desti- nation	Re- marks
<b>KR-A5060</b>							
601	IE	A01-3060-08	CC45CH1H00M	METALLIC CABINET	MX	KPR	
602	IE	A01-150-08	CC45CH1H00M	FRONT PANEL			
605	IF	A0-0607-08	CC45CH1H00M	REMOTE CONTROL ASSY			
606	IE	A0-170-08	CC45CH1H00M	BATTERY COVER			
610	IE	B10-2040-08	CC45CH1H00M	FRONT GLASS	C1		
	-	B46-0092-23	CC45CH1H00M	HARDWARE CARD	C3		
	-	B46-0096-33	CC45CH1H00M	WARRANTY CARD	C5		
	-	B46-0122-23	CC45CH1H00M	WARRANTY CARD	C7		
	-	B60-1577-08	CC45CH1H00M	INSTRUCTION MANUAL (ENGLISH)	C9		
	-	B60-1578-08	CC45CH1H00M	INSTRUCTION MANUAL (ENG, FREN)	C11		
	-	B60-1581-08	CC45CH1H00M	INSTRUCTION MANUAL (ENG, CHI)	C13		
	-	B60-1582-08	CC45CH1H00M	INSTRUCTION MANUAL (FR, GU, NU)	C17		
	-	B60-1619-08	CC45CH1H00M	INSTRUCTION MANUAL (SPA, ITA)	C21		
	-	B60-1619-08	CC45CH1H00M	INSTRUCTION MANUAL (SPANISH)	C31		
△ 620	IF	E03-0115-05	CC45CH1H00M	AC PLUG ADAPTER	C37		
△ 621	IH	E02-002-08	CC45CH1H00M	GND TERMINAL	C42		
△ 622	IH	E30-0453-05	CC45CH1H00M	AC POWER CORD	C43		
△ 622	IH	E30-0974-05	CC45CH1H00M	AC POWER CORD	C44		
△ 6501	IH	E03-1341-05	CC45CH1H00M	AC POWER CORD	C45		
△ 6501	IH	E03-0055-05	CC45CH1H00M	AC OUTLET	C46		
△ 623	3G	G13-0267-08	CC45CH1H00M	CUSHION	C47		
	-	H50-1026-08	CC45CH1H00M	ITEM CAT BOX	C48		
	-	H50-1026-08	CC45CH1H00M	ITEM CAT BOX	C49		
	-	H50-1026-08	CC45CH1H00M	POLYSTYRENE FOAMED FIXTURE	C50		
	-	H50-1026-08	CC45CH1H00M	PROTECTION BAG (ACCESSORY)	C51		
	-	H50-1026-08	CC45CH1H00M	PROTECTION BAG (MANUAL)	C52		
	-	H25-0078-04	CC45CH1H00M	PROTECTION BAG (UNIT)	C53		
	-	H25-0647-08	CC45CH1H00M	FOOT	C54		
	-	H25-1529-08	CC45CH1H00M	ANTENNA HOLDER	C55		
	-	J02-1107-08	CC45CH1H00M	AC CORD BUSHING	C56		
	-	J19-2815-04	CC45CH1H00M	KNOB LOUDNESS, SPEAKERS	C57		
	-	J42-0198-08	CC45CH1H00M	KNOB BALANCE	C58		
	-	K27-2166-08	CC45CH1H00M	KNOB BASS, TREBLE	C59		
	-	K29-4444-08	CC45CH1H00M	KNOB VOLUME	C60		
	-	K29-5932-08	CC45CH1H00M	KNOB PRESET (10KEY)	C61		
	-	K29-5933-08	CC45CH1H00M	TRANCEFORMER	C62		
	-	K29-5934-08	CC45CH1H00M	TRANCEFORMER	C63		
	-	K29-5935-08	CC45CH1H00M	TRANCEFORMER	C64		
	-	K29-5936-08	CC45CH1H00M	KNOB FUNCTION	C65		
	-	L07-0971-08	CC45CH1H00M	TRANSCFORMER	C66		
	-	L07-0972-08	CC45CH1H00M	TRANSCFORMER	C67		
	-	H25-0078-04	CC45CH1H00M	BINDING HEAD TAPPIE SCREW	C68		
	-	H25-0647-08	CC45CH1H00M	BINDING HEAD TAPPIE SCREW	C69		
	-	H25-1529-08	CC45CH1H00M	TAPPIE SCREW	C70		
	-	H25-1529-08	CC45CH1H00M	BINDING HEAD TAPPIE SCREW	C71		
	-	N09-2907-05	CC45CH1H00M	BINDING HEAD TAPPIE SCREW	C72		
	-	N09-3004-08	CC45CH1H00M	BINDING HEAD TAPPIE SCREW	C73		
	-	N30-3006-46	CC45CH1H00M	BINDING HEAD TAPPIE SCREW	C74		
	-	N84-3008-46	CC45CH1H00M	BINDING HEAD TAPPIE SCREW	C75		
	-	N89-3008-45	CC45CH1H00M	BINDING HEAD TAPPIE SCREW	C76		
	-	N89-3008-46	CC45CH1H00M	BINDING HEAD TAPPIE SCREW	C77		
	-	N89-3008-46	CC45CH1H00M	BINDING HEAD TAPPIE SCREW	C78		
	-	N89-3008-46	CC45CH1H00M	BINDING HEAD TAPPIE SCREW	C79		
	-	N89-3008-46	CC45CH1H00M	BINDING HEAD TAPPIE SCREW	C80		
	-	N89-3008-46	CC45CH1H00M	BINDING HEAD TAPPIE SCREW	C81		
	-	N89-3008-46	CC45CH1H00M	BINDING HEAD TAPPIE SCREW	C82		
	-	N89-3008-46	CC45CH1H00M	BINDING HEAD TAPPIE SCREW	C83		
	-	N89-3008-46	CC45CH1H00M	BINDING HEAD TAPPIE SCREW	C84		
	-	N89-3008-46	CC45CH1H00M	BINDING HEAD TAPPIE SCREW	C85		
	-	N89-3008-46	CC45CH1H00M	BINDING HEAD TAPPIE SCREW	C86		
	-	N89-3008-46	CC45CH1H00M	BINDING HEAD TAPPIE SCREW	C87		
	-	N89-3008-46	CC45CH1H00M	BINDING HEAD TAPPIE SCREW	C88		
	-	N89-3008-46	CC45CH1H00M	BINDING HEAD TAPPIE SCREW	C89		
	-	N89-3008-46	CC45CH1H00M	BINDING HEAD TAPPIE SCREW	C90		
	-	N89-3008-46	CC45CH1H00M	BINDING HEAD TAPPIE SCREW	C91		
	-	N89-3008-46	CC45CH1H00M	BINDING HEAD TAPPIE SCREW	C92		
	-	N89-3008-46	CC45CH1H00M	BINDING HEAD TAPPIE SCREW	C93		
	-	N89-3008-46	CC45CH1H00M	BINDING HEAD TAPPIE SCREW	C94		
	-	N89-3008-46	CC45CH1H00M	BINDING HEAD TAPPIE SCREW	C95		
	-	N89-3008-46	CC45CH1H00M	BINDING HEAD TAPPIE SCREW	C96		
	-	N89-3008-46	CC45CH1H00M	BINDING HEAD TAPPIE SCREW	C97		
	-	N89-3008-46	CC45CH1H00M	BINDING HEAD TAPPIE SCREW	C98		
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	-	N89-3008-46	CC45CH1H00M	BINDING HEAD TAPPIE SCREW	C100		
	-	N89-3008-46	CC45CH1H00M	BINDING HEAD TAPPIE SCREW	C101		
	-	N89-3008-46	CC45CH1H00M	BINDING HEAD TAPPIE SCREW	C102		
	-	N89-3008-46	CC45CH1H00M	BINDING HEAD TAPPIE SCREW	C103		
	-	N89-3008-46	CC45CH1H00M	BINDING HEAD TAPPIE SCREW	C104		
	-	N89-3008-46	CC45CH1H00M	BINDING HEAD TAPPIE SCREW	C105		
	-	N89-3008-46	CC45CH1H00M	BINDING HEAD TAPPIE SCREW	C106		
	-	N89-3008-46	CC45CH1H00M	BINDING HEAD TAPPIE SCREW	C107		
	-	N89-3008-46	CC45CH1H00M	BINDING HEAD TAPPIE SCREW	C108		
	-	N89-3008-46	CC45CH1H00M	BINDING HEAD TAPPIE SCREW	C109		
	-	N89-3008-46	CC45CH1H00M	BINDING HEAD TAPPIE SCREW	C110		
	-	N89-3008-46	CC45CH1H00M	BINDING HEAD TAPPIE SCREW	C111		
	-	N89-3008-46	CC45CH1H00M	BINDING HEAD TAPPIE SCREW	C112		
	-	N89-3008-46	CC45CH1H00M	BINDING HEAD TAPPIE SCREW	C113		
	-	N89-3008-46	CC45CH1H00M	BINDING HEAD TAPPIE SCREW	C114		
	-	N89-3008-46	CC45CH1H00M	BINDING HEAD TAPPIE SCREW	C115		
	-	N89-3008-46	CC45CH1H00M	BINDING HEAD TAPPIE SCREW	C116		
	-	N89-3008-46	CC45CH1H00M	BINDING HEAD TAPPIE SCREW	C117		
	-	N89-3008-46	CC45CH1H00M	BINDING HEAD TAPPIE SCREW	C118		
	-	N89-3008-46	CC45CH1H00M	BINDING HEAD TAPPIE SCREW	C119		
	-	N89-3008-46	CC45CH1H00M	BINDING HEAD TAPPIE SCREW	C120		
	-	N89-3008-46	CC45CH1H00M	BINDING HEAD TAPPIE SCREW	C121		
	-	N89-3008-46	CC45CH1H00M	BINDING HEAD TAPPIE SCREW	C122		
	-	N89-3008-46	CC45CH1H00M	BINDING HEAD TAPPIE SCREW	C123		
	-	N89-3008-46	CC45CH1H00M	BINDING HEAD TAPPIE SCREW	C124		
	-	N89-3008-46	CC45CH1H00M	BINDING HEAD TAPPIE SCREW	C125		
	-	N89-3008-46	CC45CH1H00M	BINDING HEAD TAPPIE SCREW	C126		
	-	N89-3008-46	CC45CH1H00				

## PARTS LIST

6

\* New Parts  
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5

\* New Parts  
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Ref. No.	Address	New Parts 番号	Parts No. 部品番号	Description 部品名／規格	Desti- nation 向	Re- marks 向
T501		L07-0789-08	TRANS FORMER	X		
X801		L07-0790-08	TRANS FORMER	M		
X901		L77-1122-05	CRYSTAL RESONATOR			
		L78-0209-05	4.19MHz RESONATOR			
F	2D	N89-3008-46	BINDING HEAD TAFTITE SCREW	X		
R55		RD149B2E220J	FL-PR00F RD 22	J 1/4W	D42	D5FB20
R63		R90-0187-05	MULTI-COMP	K 5W	△ D43 -46	DIODE
R65		RD149B2E332J	FL-PR00F RD 3.3K	J 1/4W	D201,202	DIODE
R71		RN149K3A10J	RN 10	J 1W	D501,502	DIODE
R115		* RD149B2E010J	FL-PR00F RD 1.0	J 1/4W	D501,508	DIODE
R116	117	RN149K3D680J	RN	J 2W	D509	1NA002A
R121		RD149B2E101J	FL-PR00F RD 1.0	J 1.4W	D511-514	MT2J6·B
R128		RD149B2E101J	FL-PR00F RD 100	J 1.4W	D515,516	1NA002A
R129		RD149B2E100J	FL-PR00F RD 10	J 1W	D801,802	1SS133
R130		RD149B2E101J	FL-PR00F RD 100	J 1/4W	D810	1NA002A
R141		RD149B2E101J	FL-PR00F RD 100	J 1/4W	D811,812	ZENER DIODE
R153	154	RD149B2E70J	FL-PR00F RD 47	J 1.4W	D902-904	D100E
R215	216	RD149B2E51J	FL-PR00F RD 150	J 1.4W	D905	MT2J6·B
R217	220	RD149B2E221J	FL-PR00F RD 220	J 1W	D908	1SS133
R71	72	* RN149K3A61J	RN 560	J 1W	D909	1SS133
R501	504	RD149B2E220J	FL-PR00F RD 22	J 1/4W	D909-918	D100E
R519		RD149B2E335J	RD-PR00F RD 100	J 1/4W	D920	RDA-7ES(B2)
R806		RD149B2E101J	FL-PR00F RD 47	J 1/4W	D921	1SS133
R810		RD149B2E101J	FL-PR00F RD 150	J 1.4W	D924	1SS133
R836		RD149B2E101J	FL-PR00F RD 100	J 1/4W	FL901	5-MT-167GK
R851		RD149B2E220J	FL-PR00F RD 82	J 1/4W	IC1	TC9164N
R869		RD149B2E221J	FL-PR00F RD 220	J 1/4W	IC2	TC9162N
VR1	1,2	R12-1066-05	TRIMMING POT.	1K	IC3 , 4	NJH4565DD
VR40	, 402	* R39-0003-08	POTENTIOMETER	10KB	IC5	BA209N
VR431		R39-0001-08	POTENTIOMETER	100KB X3	IC401	NJH4565DD
VR451		R10-5071-08	POTENTIOMETER	BALANCE	IC501	UPC1237HA
VR801		R12-3166-08	TRIM POT.	33KB	IC801	IC(PCM TUNER)
VR802		R12-1053-05	TRIM POT.	4.7KB VCO	IC802	IC(FM MPX)
VR804		R12-3071-05	TRIM POT.	10KB AM TUNE LEVEL	IC803	IC(PML FREQUENCY SYNTHESIZER)
△ K501		S51-2092-05	MAGNETIC RELAY POWER	Q9	IC901	IC(VOLTAGE REGULATOR / +5V)
K502		S76-0302-08	MAGNETIC RELAY SPEAKER	Q11 , 10	*	IC(4bit MICROPROCESSOR)
S1		S62-032-08	SLIDE SWITCH	Q11 , 12	IC804	IC(4bit MICROPROCESSOR)
S2		S31-1010-05	IMPEDANCE SEL	Q13 , 14	IC805	DAT1141S
S901-926		* S70-0030-08	VOLTAGE SELECT	Q15	IC806	2SC2235Y
SW451		S68-0040-08	TACT SWITCH	Q16	IC807	2SC2058Y
SW471		* S62-033-08	KEY BOARD	Q17 , 18	IC808	2SC1740S
SW801		S62-0012-08	PUSH SWITCH	Q19 , 20	IC809	2SC1845F
D1	-12	ISS131	LOUDNESS	Q21	IC810	2SC2235Y
D14	, 15	ISS131	SPEAKERS	Q23	IC811	2SC1845F
D17	-19	ISS131	SLIDE SWITCH CH. SPACE	Q24	IC812	2SC1992F
D22	, 23	1NA042	DIODE	Q25	IC81274	TRANSISTOR
D26		1NA042	DIODE	Q26	2SC1992F	TRANSISTOR
D31		ISS131	DIODE	Q27	2SC1845F	TRANSISTOR
D32		RD13BS(B2)	ZENER DIODE	Q28	2SC1992F	TRANSISTOR
D33		MTZ26.2B	ZENER DIODE	Q29	2SC2316(Y)	TRANSISTOR
D34		MTZ26.2B	ZENER DIODE	Q30	2SD882	TRANSISTOR
D35		MTZ23.9B	ZENER DIODE	Q803	2SC1740S	TRANSISTOR
D36	, 37	RDS13ES(B2)	ZENER DIODE	Q804	2SC1845F	TRANSISTOR
		MTZ12B(B2)	ZENER DIODE	Q809	2SA1933S	TRANSISTOR

L: Scandinavia K: USA P: Canada R: Mexico  
Y: PX (Far East, Hawaii) T: England E: Europe  
Y: AAFFES (Europe) X: Australia M: Other Areas  
Y: AAFFES (Europe) T: England E: Europe  
Y: AAFFES (Europe) X: Australia M: Other Areas  
△ indicates safety critical components.

EXCEPT E,T

# KR-A5060

## PARTS LIST

**EXCEPT E,T**

\* New Parts  
Parts without Parts No. are not supplied.  
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Teile ohne Parts No. werden nicht geliefert.

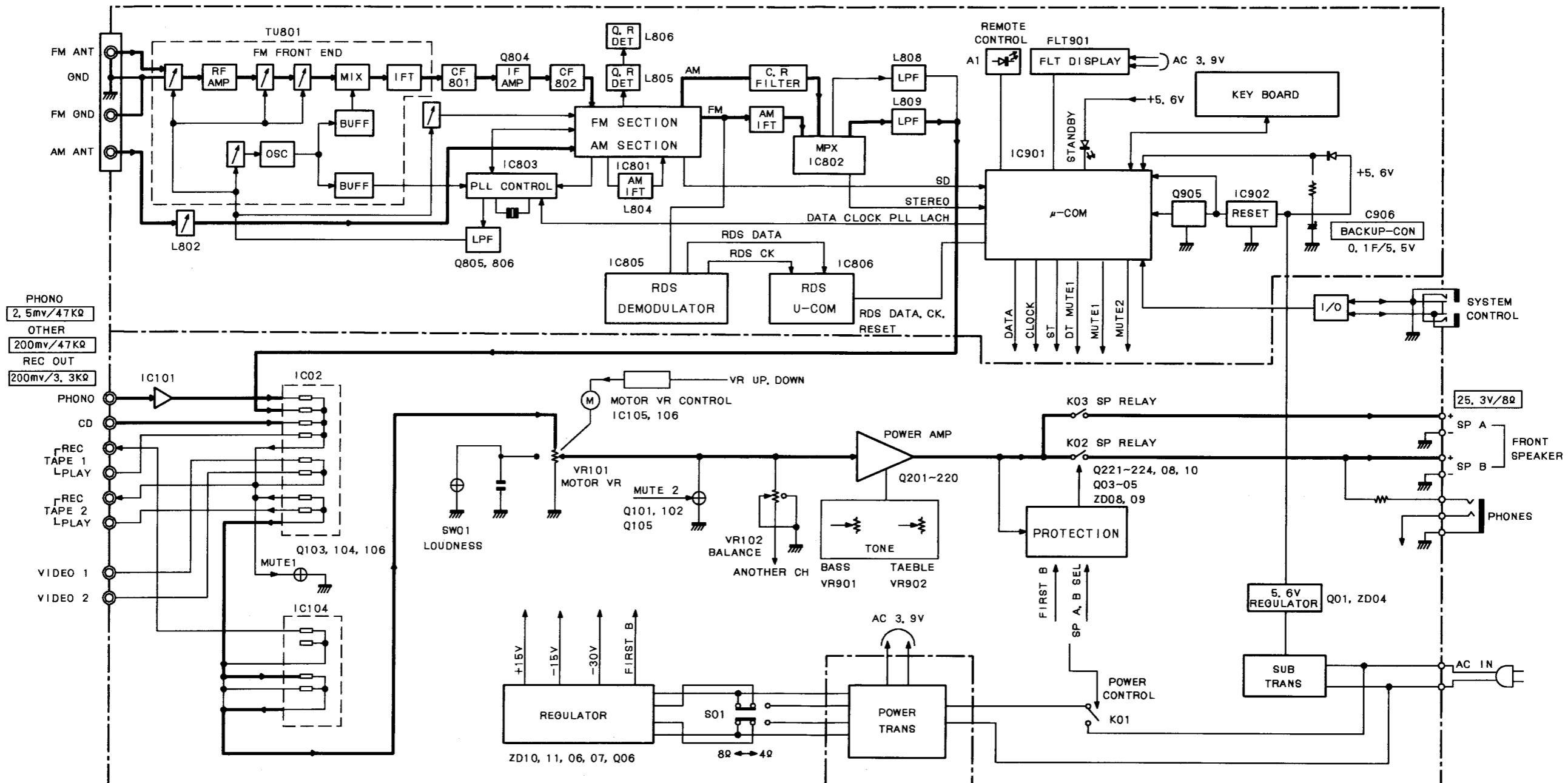
7

Ref. No.	Address	Parts No.	Description	Desti- nation mark 仕 向 標
※ 部品番号	位番	部品番号	部品名 / 規格	Re- marks
Q811-812		2SC1740S 2SA933S 2SC1740S DTA143TS	TRANSISTOR TRANSISTOR TRANSISTOR DIGITAL TRANSISTOR	M
Q901				M
Q902				M
Q903				M
A901		W02-1111-08 W02-1042-05	ELECTRIC CIRCUIT MODULE FM FRONT END UNIT	KPMXR
TU801				

L : Scandinavia   K : USA   P : Canada   R : Mexico  
Y : PX (Far East Hawaii) T : England   E : Europe   G : Germany  
V : AAES (Europe)   X : Australia   M : Other Areas

△ indicates safety critical components

# KR-A4060/A5060 KR-A4060/A5060 BLOCK DIAGRAM



# KR-A4060/A5060

## ADJUSTMENT

**AM section : If alignment point is "-", confirm the value. If not, replace the front end pack.**

No.	ITEM	INPUT SETTINGS	OUTPUT SETTINGS	TUNER SETTINGS	ALIGNMENT POINTS	ALIGN FOR	FIG.
<b>FM SECTION</b>							
1	DISCRIMINATOR	(A) 98.0MHz 1kHz, ±40kHz dev. 60dB $\mu$ (ANT. input)	Connect a DC voltmeter between TP801 and TP802. (TUNER UNIT)	AUTO or MONO 98.0MHz	L805 (TUNER UNIT)	0V.	(a)
2	DISCRIMINATOR	(C) 98.0MHz 1kHz, ±40kHz dev. 60dB $\mu$ (ANT. input)	Connect a Distortion meter (1kHz)	AUTO or MONO 98.0MHz	L806 (TUNER UNIT)	Minimum distortion. (L or R)	
3	DISCRIMINATOR	(C) 98.0MHz 1kHz, ±40kHz dev. 60dB $\mu$ (ANT. input)	Connect a DC voltmeter between TP801 and TP802. (TUNER UNIT)	AUTO or MONO 98.0MHz	L806 (TUNER UNIT)	0V.	(a)
4	DISTORTION (STEREO)	(C) 98.0MHz 1kHz, ±40kHz dev. Selector : L or R Pilot : ±6.0kHz dev. 60dB $\mu$ (ANT. input)	(B)	98.0MHz	IFT (Front end pack)	Minimum distortion. (L or R)	
5	SEPARATION	(C) 98.0MHz 1kHz, ±40kHz dev. Selector : L or R Pilot : ±6.0kHz dev. 60dB $\mu$ (ANT. input)	(B)	AUTO 98.0MHz	VR803 (TUNER UNIT)	Minimum cross talk.	
6	TUNING LEVEL	(A) 98.0MHz 0 dev. 17dB $\mu$ (ANT. input)	(B)	AUTO or MONO 98.0MHz	VR802 (TUNER UNIT)	Adjust VR802 and stop at the point where FLT901 (TUNED) goes on.	
<b>AM SECTION</b>							
(1)	TUNING LEVEL	(D) 999MHz 26dB $\mu$ (ANT. input)	(B)	-	VR801 (TUNER UNIT)	Adjust VR801 and stop at the point where FLT901 (TUNED) goes on.	
<b>AUDIO SECTION</b>							
<1>	IDLE CURRENT	-	Connect a DC voltmeter across CP1 (L), CP2 (R) (MAIN UNIT)	Volume : 0	VR201 (L) VR202 (R) (AUDIO UNIT)	10mV	

# KR-A4060/A5060

## AJUSTES

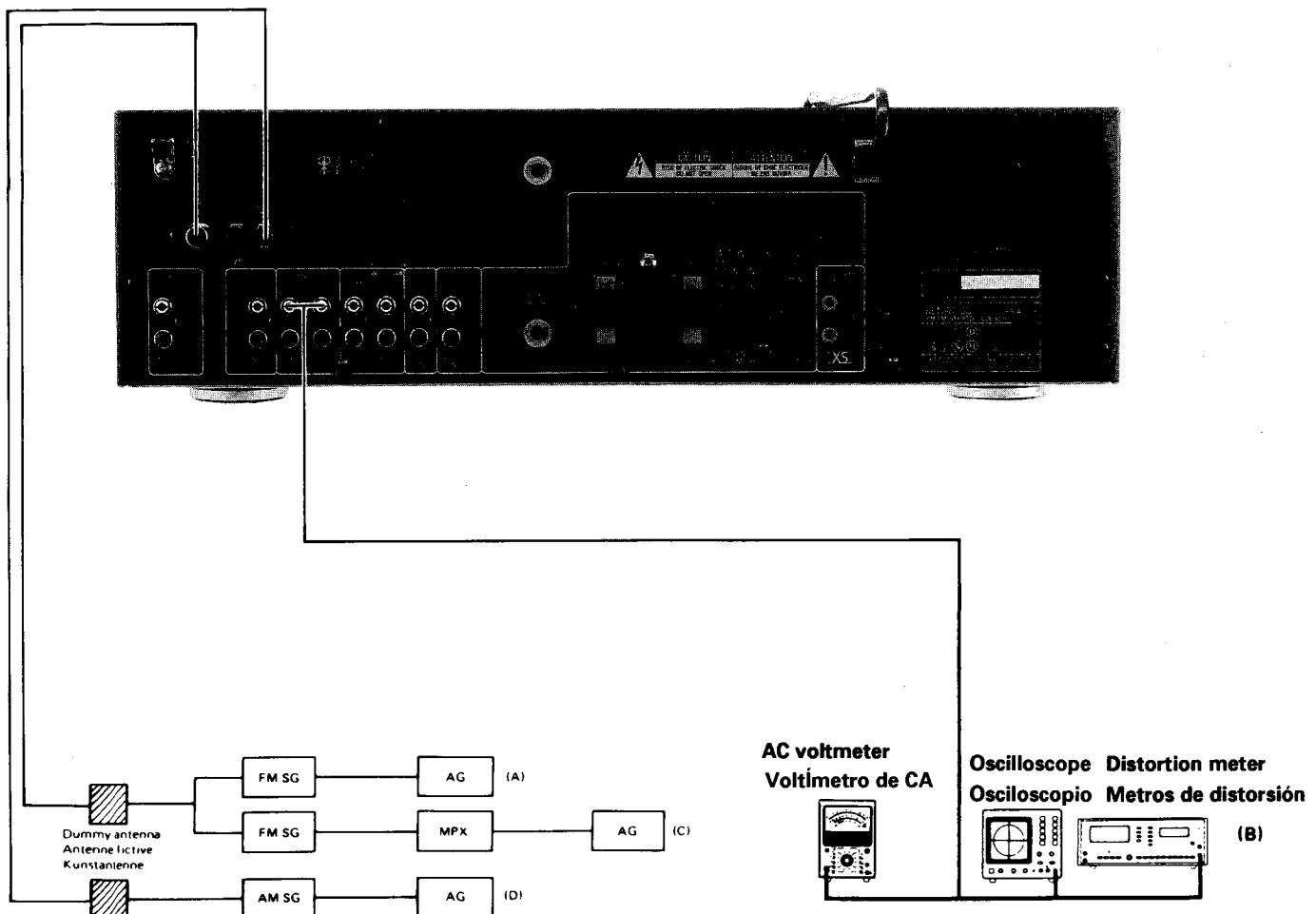
**Sección de AM : Si el punto de alineación es "-", confirme el valor. Si no, reemplace el paquete de entrada.**

Núm.	ÍTEM	AJUSTES DE ENTRADA	AJUSTES DE SALIDA	AJUSTES DEL SINTONIZADOR	PUNTOS DE ALINEACIÓN	ALINEACIÓN PARA	FIG.
<b>SECCIÓN DE FM</b>							
1	DISCRIMINATOR	(A) 98.0MHz 1kHz, ±40kHz dev. 60dB $\mu$ (Entrada de antena)	Conecte un voltímetro de CC entre TP801 y TP802. (UNIDAD DEL SINTONIZADOR)	AUTO o MONO 98.0MHz	L805 (UNIDAD DEL SINTONIZADOR)	0V.	(a)
2	DISCRIMINATOR	(C) 98.0MHz 1kHz, ±40kHz dev. 60dB $\mu$ (Entrada de antena)	Conecte un medidor de Distorsión. (1kHz)	AUTO o MONO 98.0MHz	L806 (UNIDAD DEL SINTONIZADOR)	Distortión mínima. (L o R)	
3	DISCRIMINATOR	(C) 98.0MHz 1kHz, ±40kHz dev. 60dB $\mu$ (Entrada de antena)	Conecte un voltímetro de CC entre TP801 y TP802. (UNIDAD DEL SINTONIZADOR)	AUTO o MONO 98.0MHz	L806 (UNIDAD DEL SINTONIZADOR)	0V.	(a)
4	DISTORSIÓN (ESTÉREO)	(C) 98.0MHz 1kHz, ±40kHz dev. Selector : L o R Piloto : ±6.0kHz dev. 60dB $\mu$ (Entrada de antena)	(B)	98.0MHz	IFT (Paquete de entrada)	Distortión nómica. (L o R)	
5	SEPARACIÓN	(C) 98.0MHz 1kHz, ±40kHz dev. Selector : L o R Piloto : ±6.0kHz dev. 60dB $\mu$ (Entrada de antena)	(B)	AUTO 98.0MHz	VR803 (UNIDAD DEL SINTONIZADOR)	Diáfonía mínima.	(b)
6	NIVEL DE SINTONÍA	(A) 98.0MHz 0 dev. 17dB $\mu$ (Entrada de antena)	(B)	AUTO o MONO 98.0MHz	VR802 (UNIDAD DEL SINTONIZADOR)	Ajuste VR802 y pare en el punto en el que se encienda FLT 901 (SINTONIZADO).	
<b>SECCIÓN DE AM</b>							
(1)	NIVEL DE SINTONÍA	(D) 999MHz 26dB $\mu$ (Entrada de antena)	(B)	-	VR801 (UNIDAD DEL SINTONIZADOR)	Ajuste VR801 y pare en el punto en el que se encienda FLT 901 (SINTONIZADO).	
<b>SECCIÓN DE AUDIO</b>							
<1>	CORRIENTE EN REPOSO	-	Conecte un voltímetro de CC entre CP1 (L) y CP2 (R) (UNIDAD PRINCIPAL)	Volumen : 0	VR201 (L) VR202 (R) (UNIDAD AUDIO)	10mV	

# KR-A4060/A5060

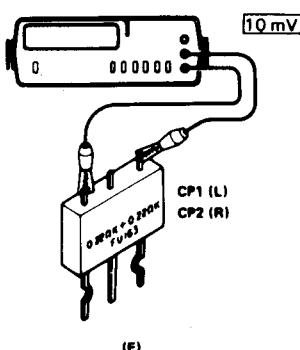
## ADJUSTMENT/AJUSTES

### SYSTEM CONNECTIONS/CONEXIONES DEL SISTEMA



System connections/Raccordements du système/System-Anschlüsse

(e) DC voltmeter  
Voltímetro de CC

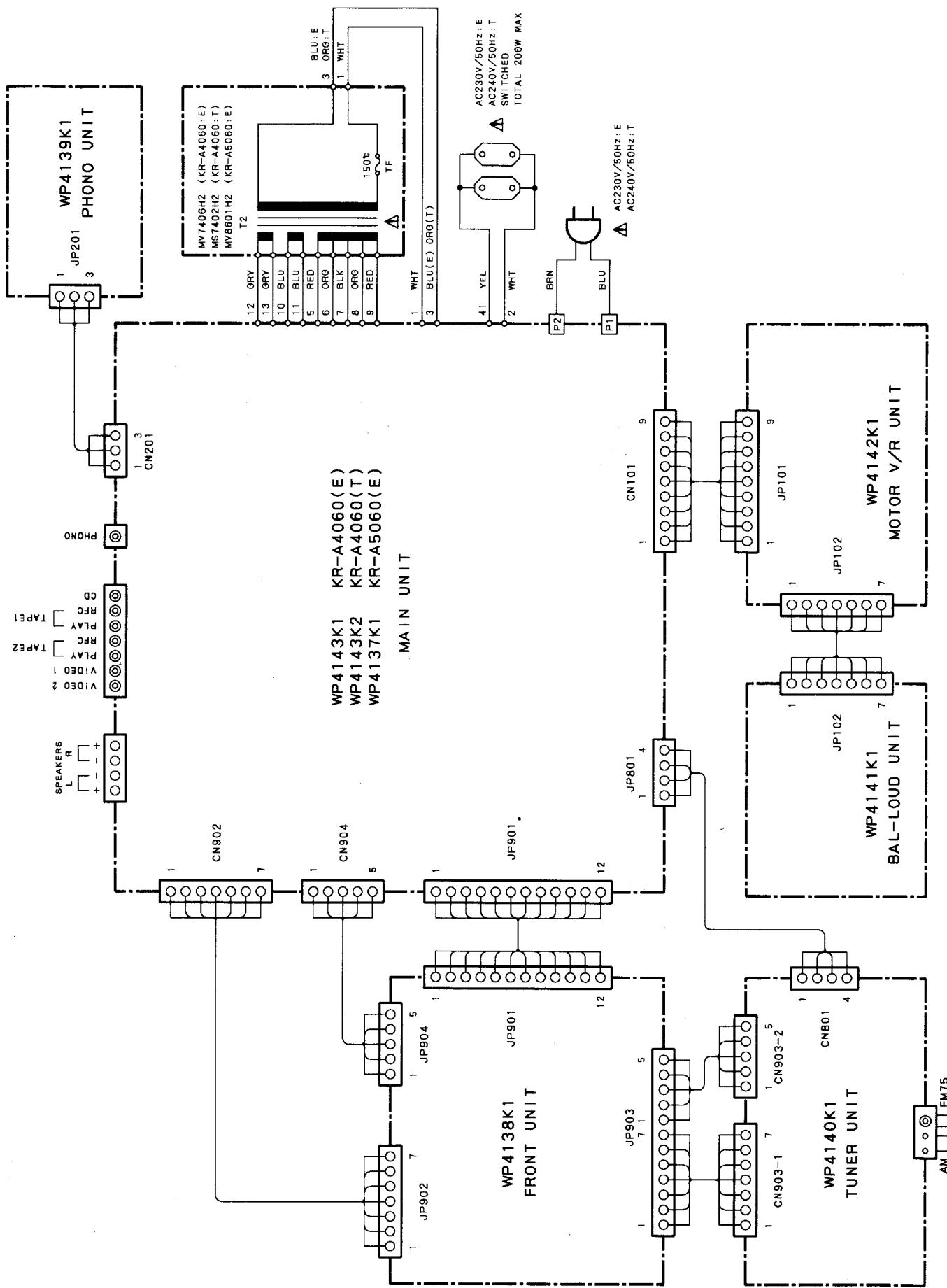


(E)

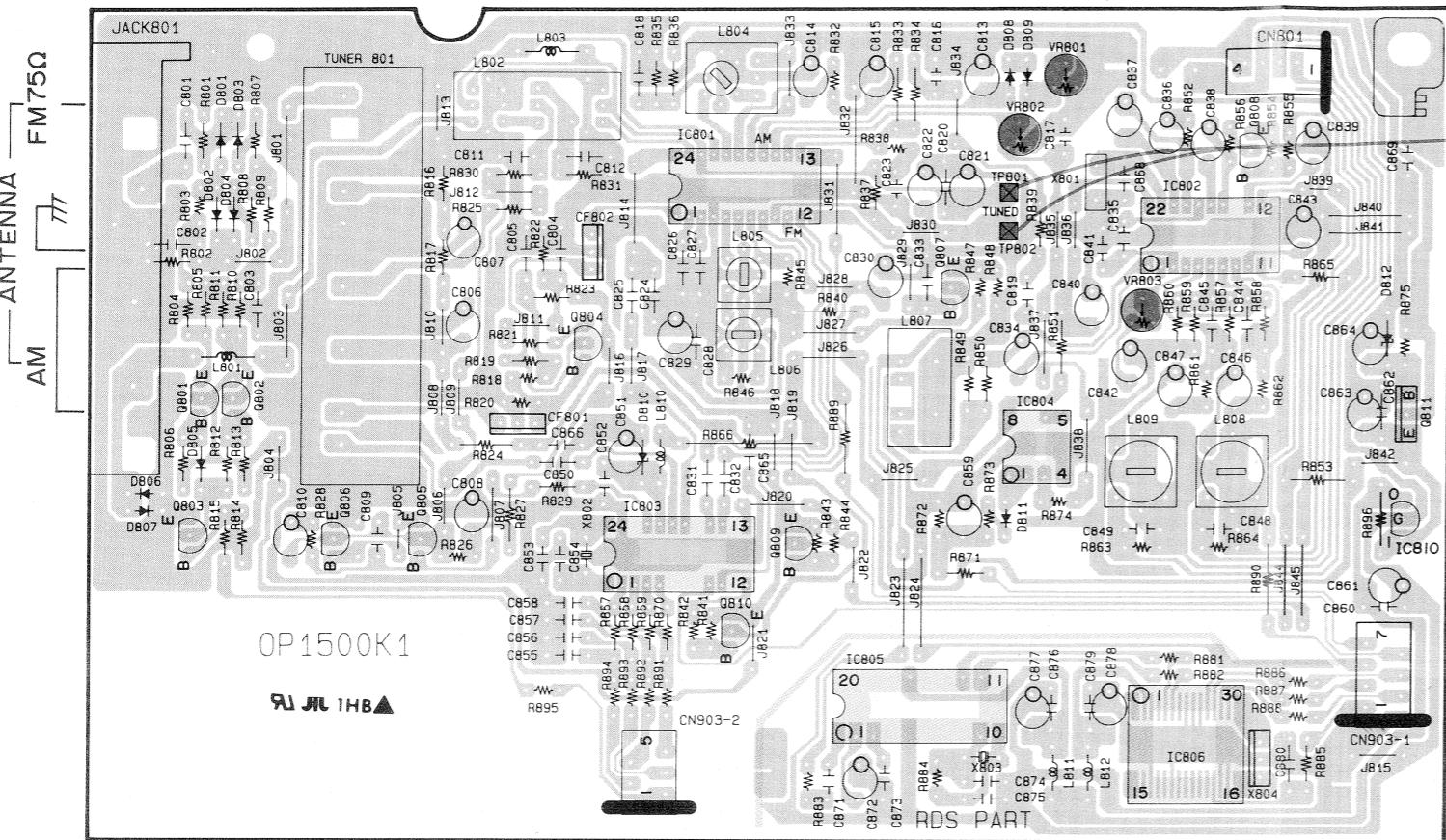
E,T

# KR-A4060/A5060

## WIRING DIAGRAM



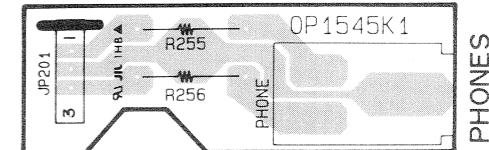
## **PC BOARD (COMPONENT SIDE VIEW) : KR-A4060/A5060**



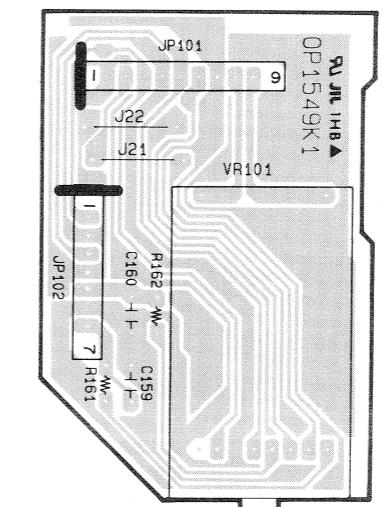
(a) Discriminato

0V

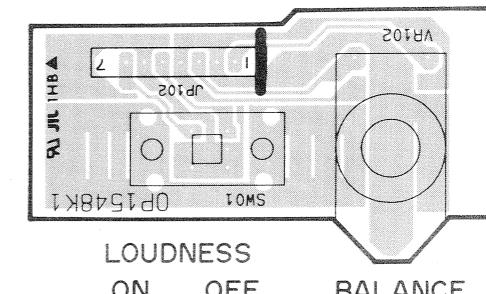
OCC



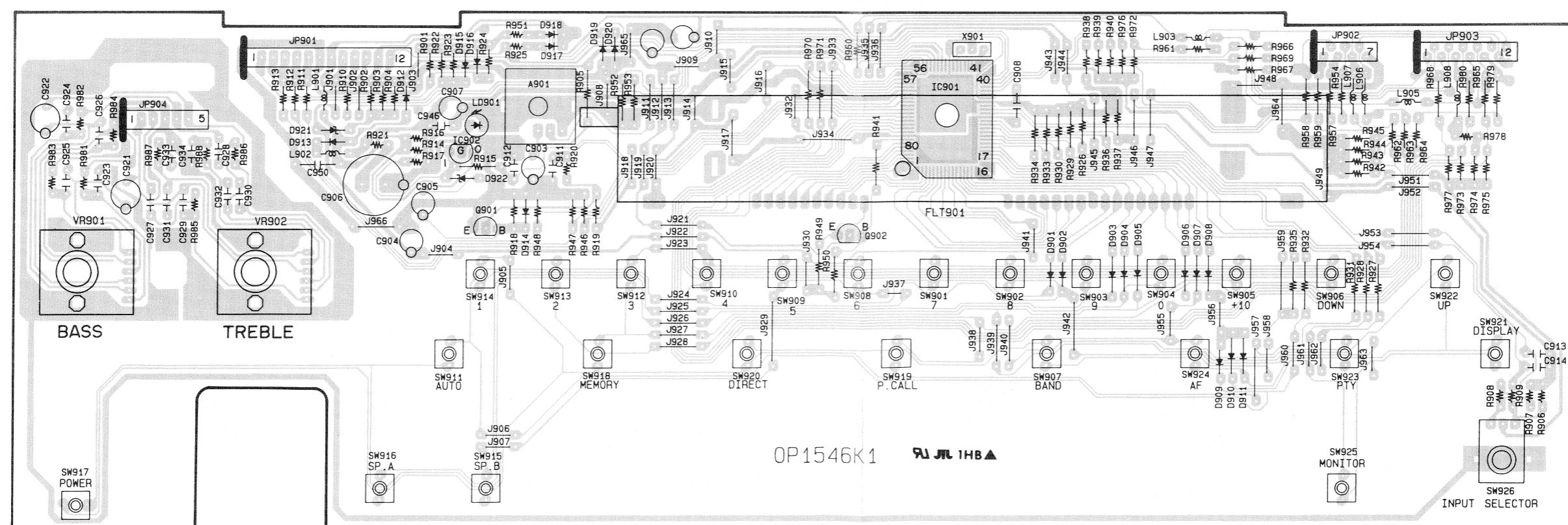
PHONFES



VOLUME CONTROL



LOUDNESS  
ON OFF BALANCE



Refer to the schematic diagram for the values of resistors and capacitors

# PC BOARD (COMPONENT SIDE VIEW) : KR-A4060/A5060

## IMPEDANCE SELECTOR

A or B :  
 8Ω OR MORE → A or B : LESS THAN 8Ω  
 A and B : 8Ω OR MORE

SYSTEM  
CONTROL

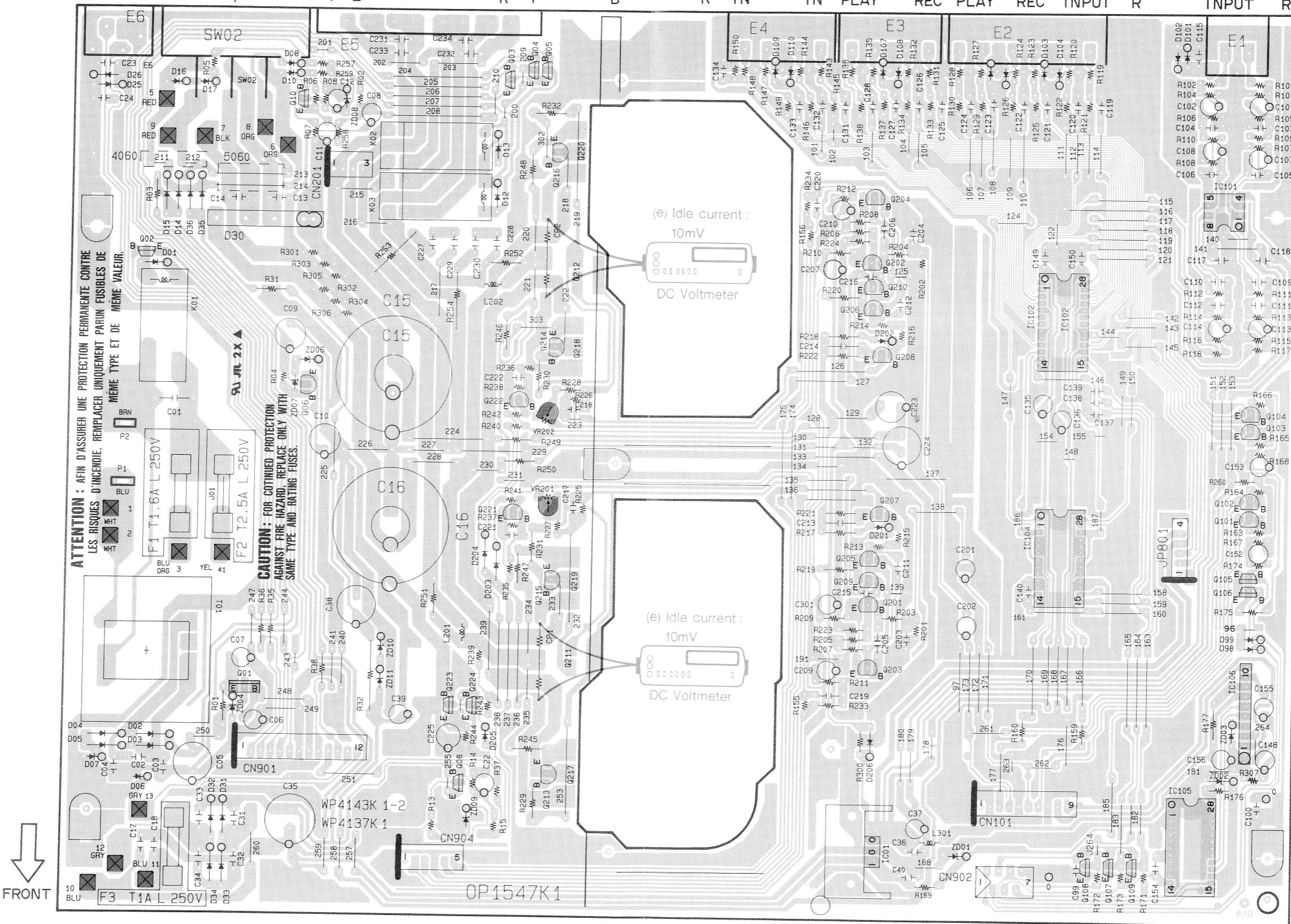
SPEAKERS (A or B : 4-16Ω, A and B : 8-16Ω)

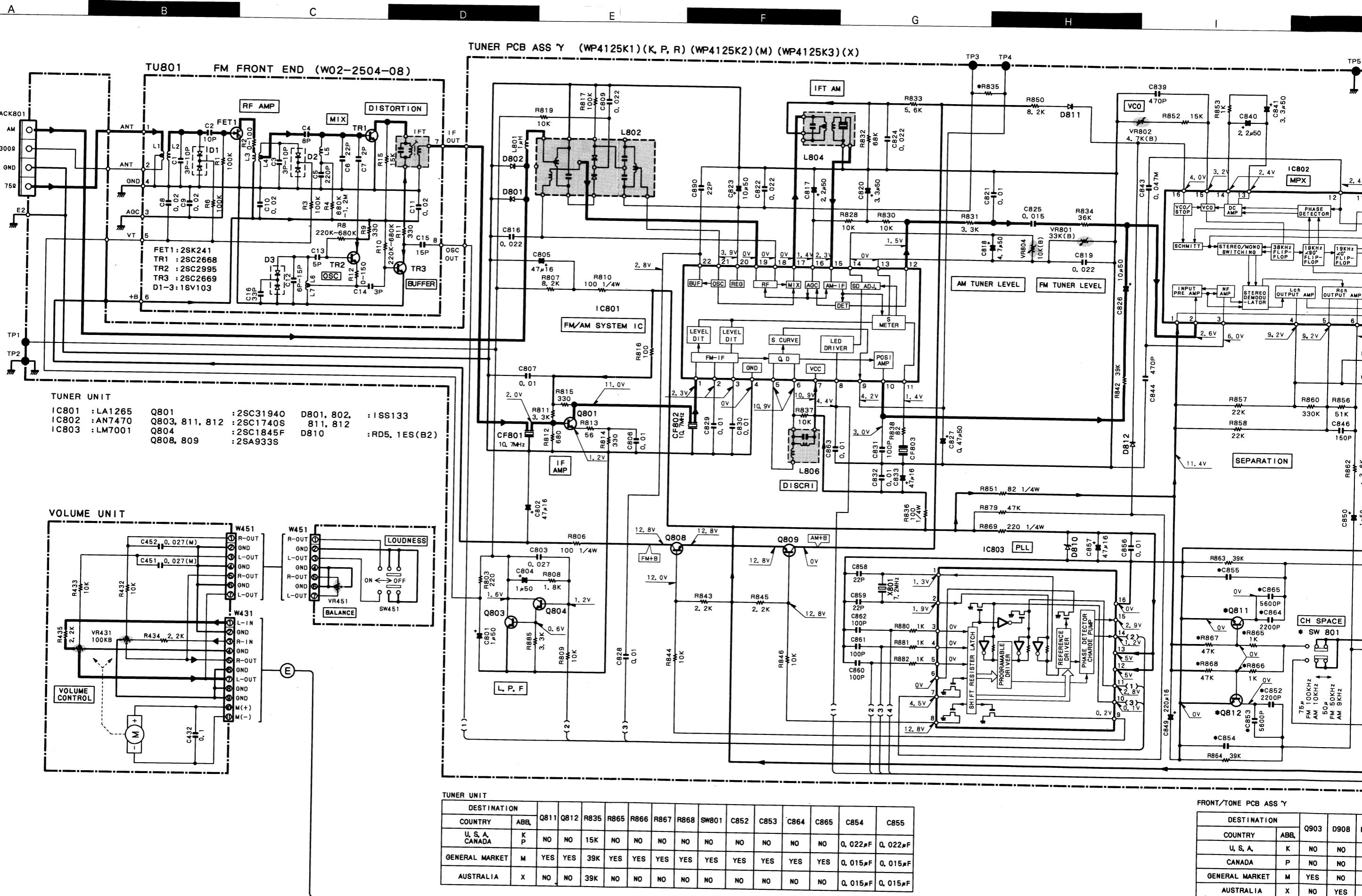
+ L -

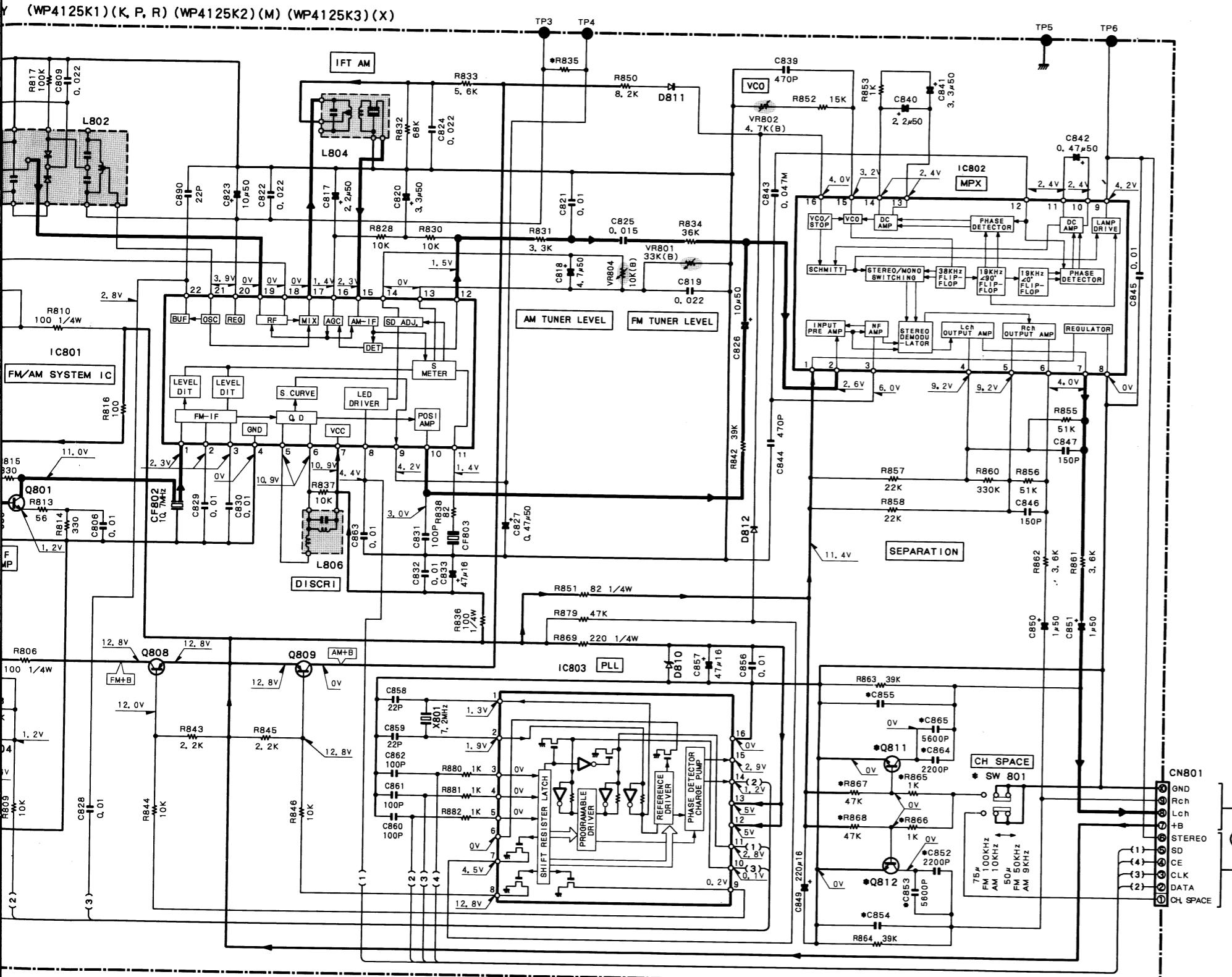
- R +

A

B



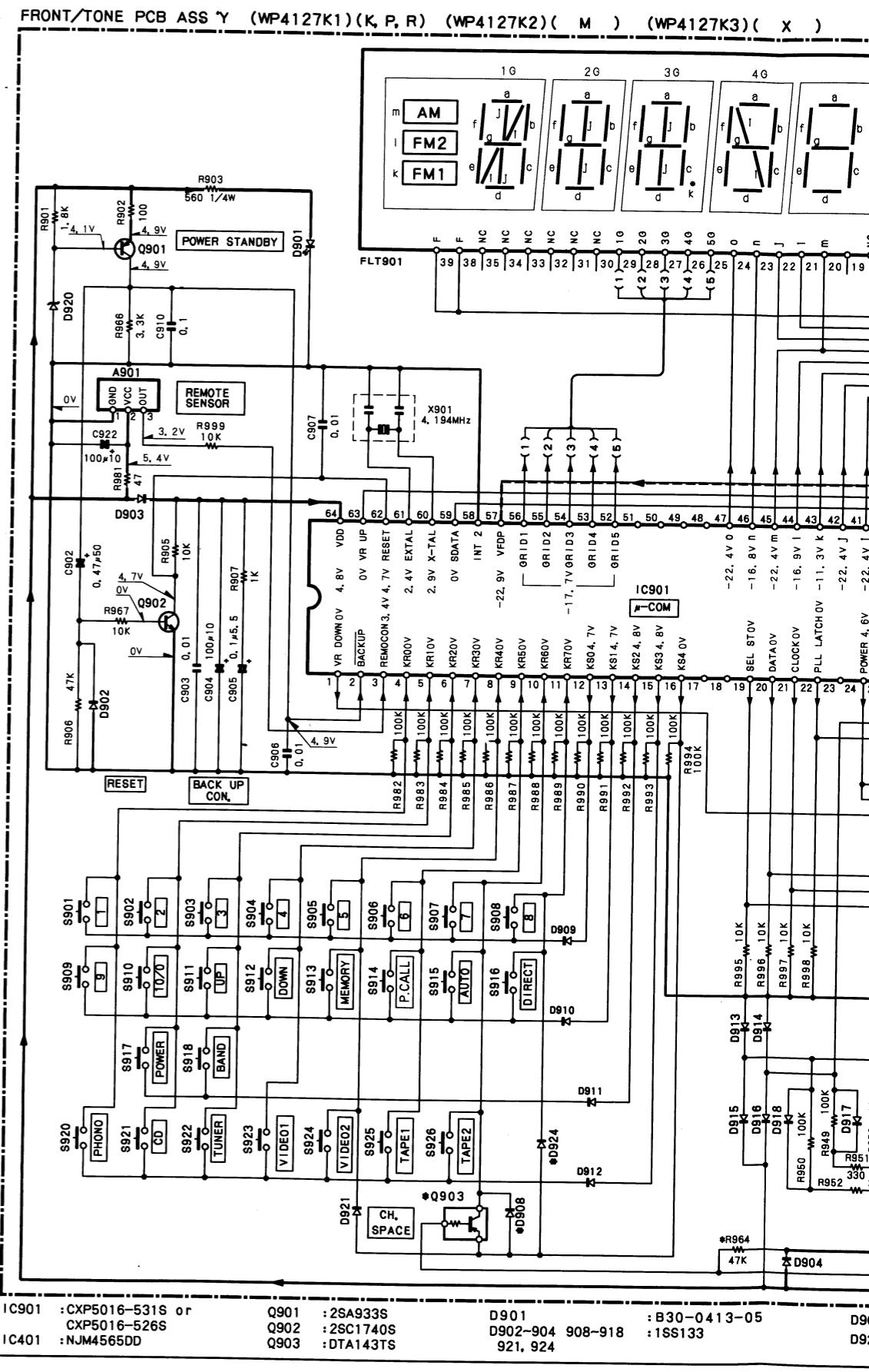


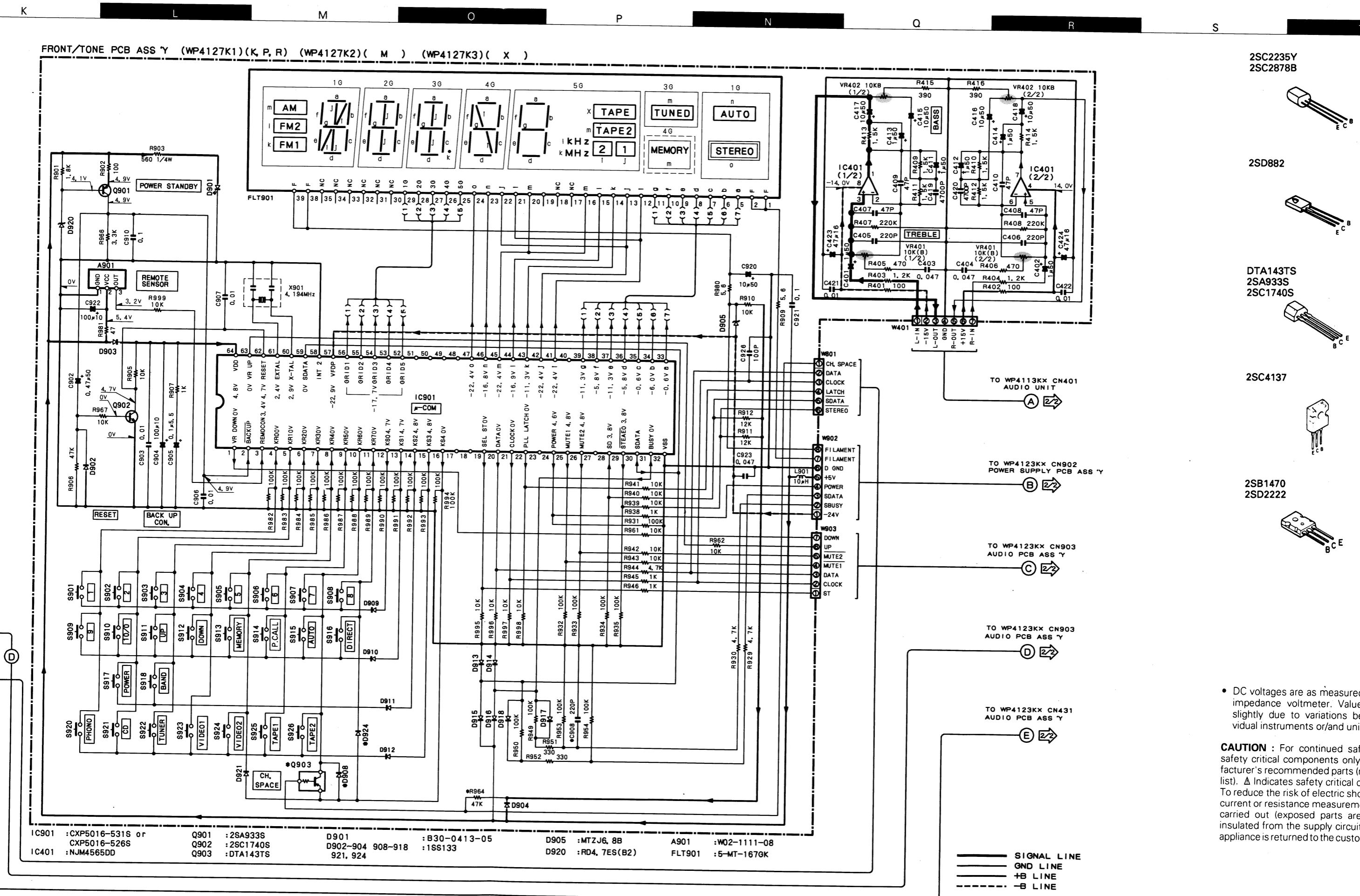


Q812	R835	R865	R866	R867	R868	SW801	C852	C853	C864	C865	C854	C855
NO	15K	NO	NO	NO	NO	NO	NO	NO	NO	NO	0.022μF	0.022μF
YES	39K	YES	YES	YES	YES	YES	YES	YES	YES	YES	0.015μF	0.015μF
NO	39K	NO	NO	NO	NO	NO	NO	NO	NO	NO	0.015μF	0.015μF

FRONT STONE, PGS. 100-111

DESTINATION		Q903	D908	D924	R964	C908
COUNTRY	ABB.					
U. S. A.	K	NO	NO	YES	NO	YES
CANADA	P	NO	NO	YES	NO	YES
GENERAL MARKET	M	YES	NO	NO	YES	NO
AUSTRALIA	X	NO	YES	NO	NO	NO



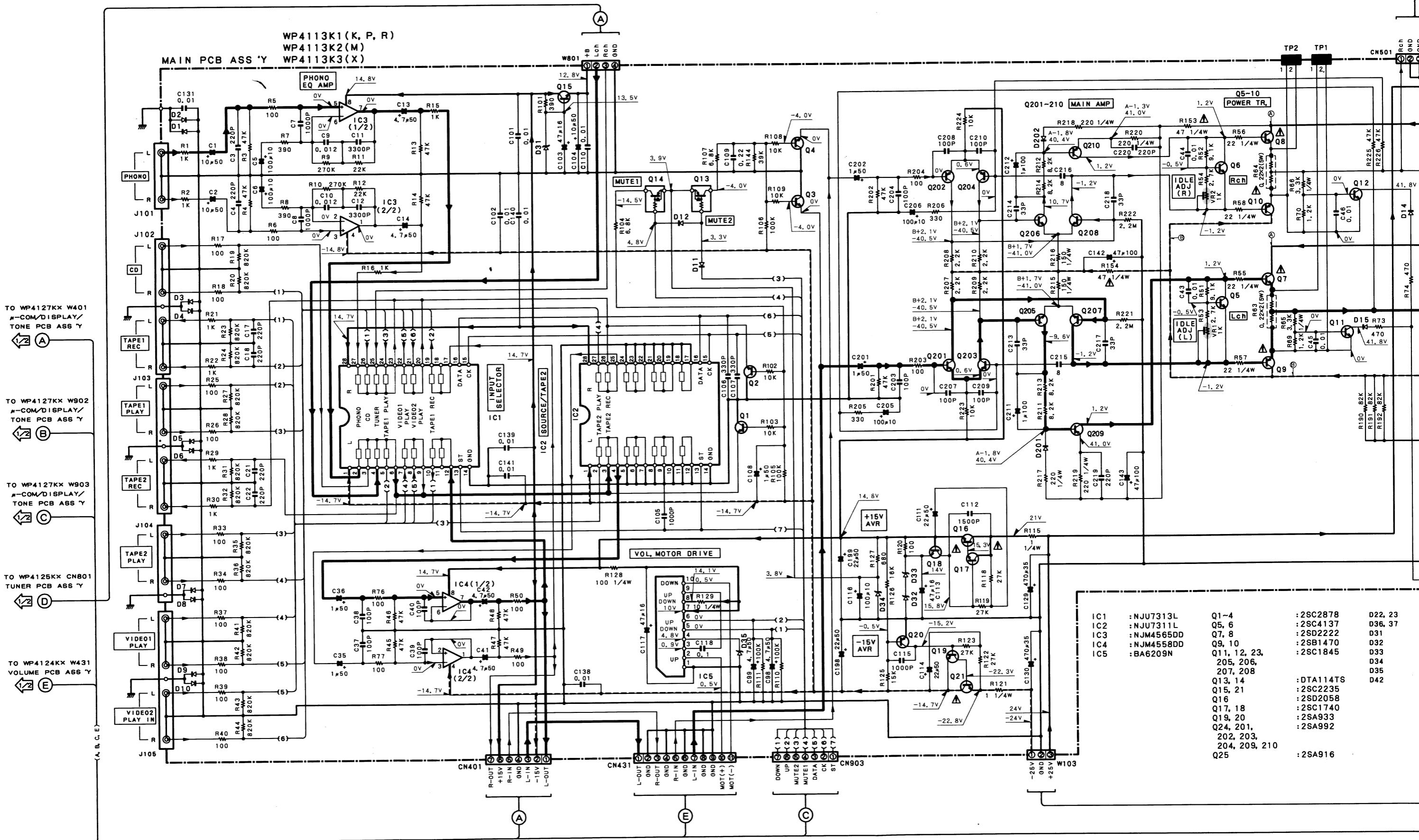


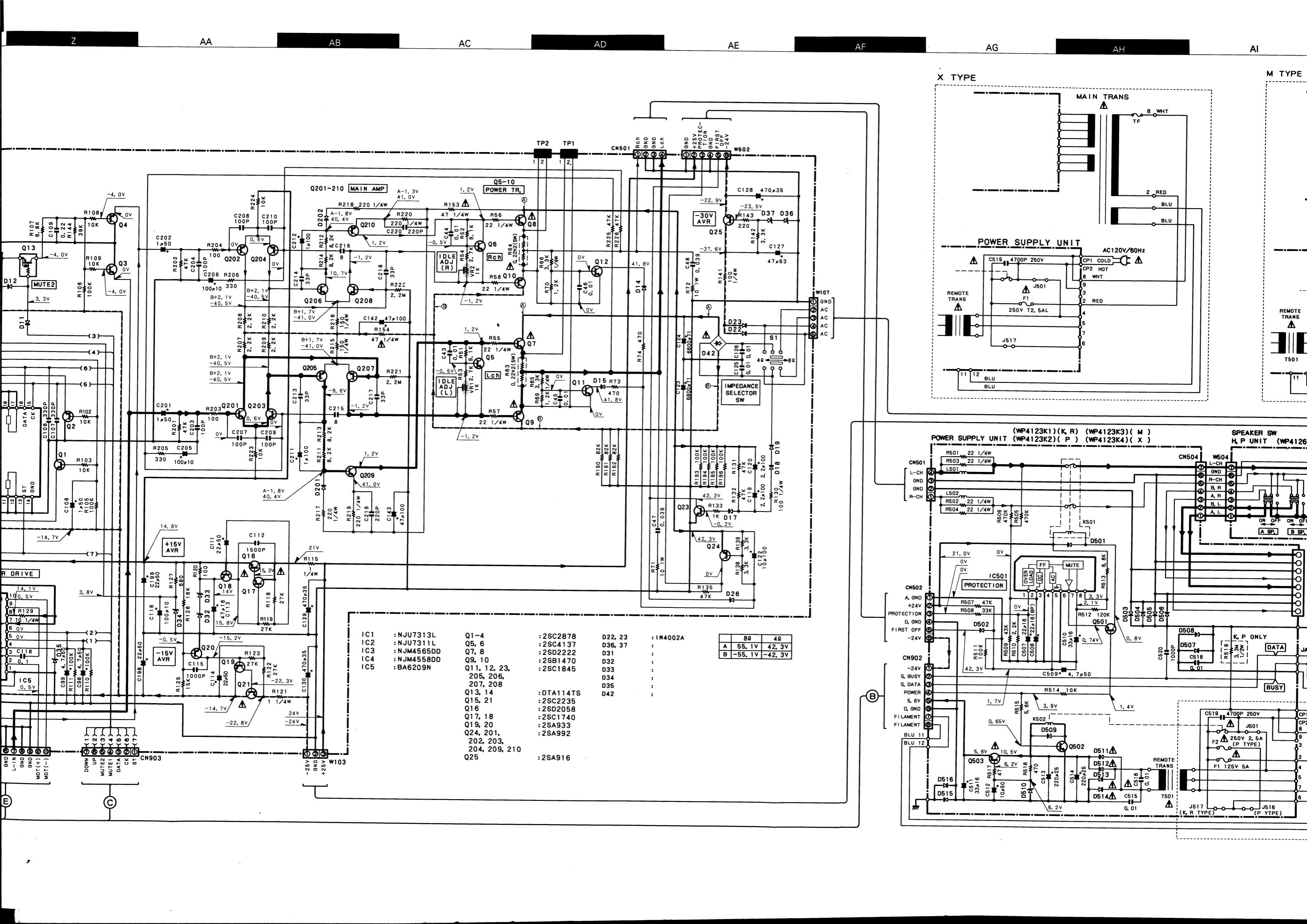
- DC voltages are as measured with a high impedance voltmeter. Values may vary slightly due to variations between individual instruments or/and units.

**CAUTION :** For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to part list).  $\Delta$  Indicates safety critical components. To reduce the risk of electric shock, leakage current or resistance measurements shall be carried out (exposed parts are acceptable insulated from the supply circuit) before the appliance is returned to the customer.

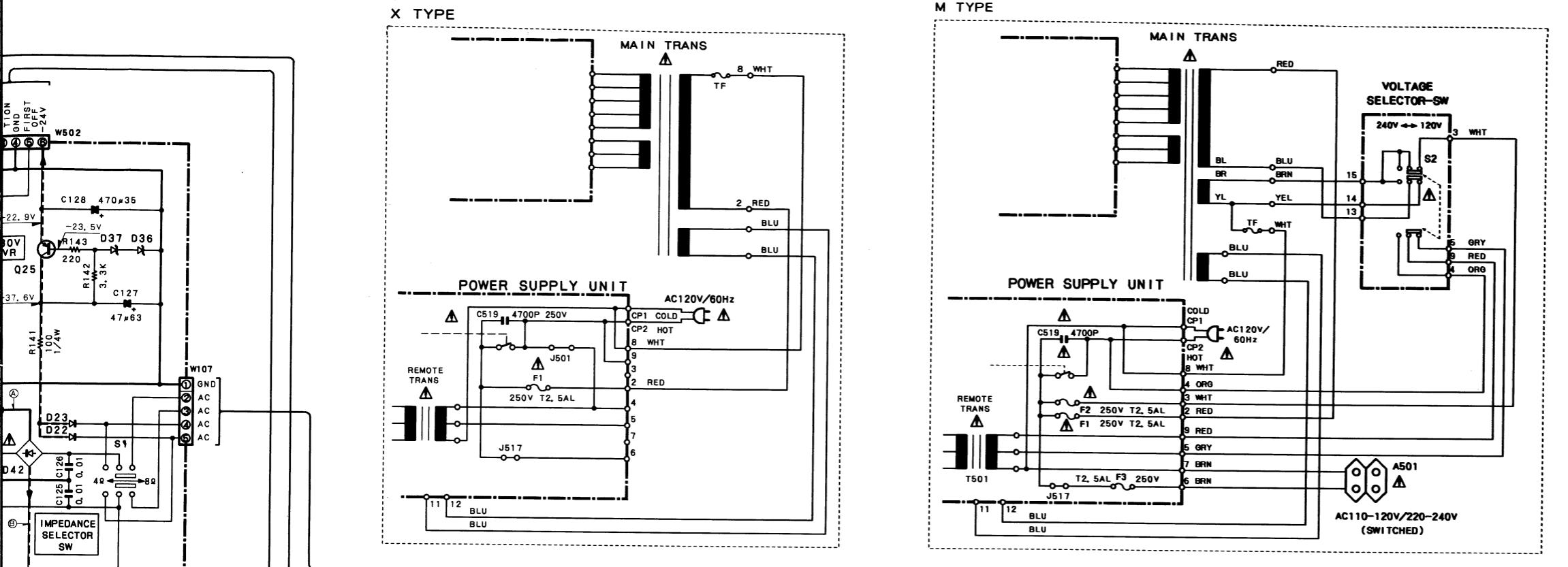
1/2 (Except E, T)  
Y05-2880-10

**KR-A5060**  
**KENWOOD**



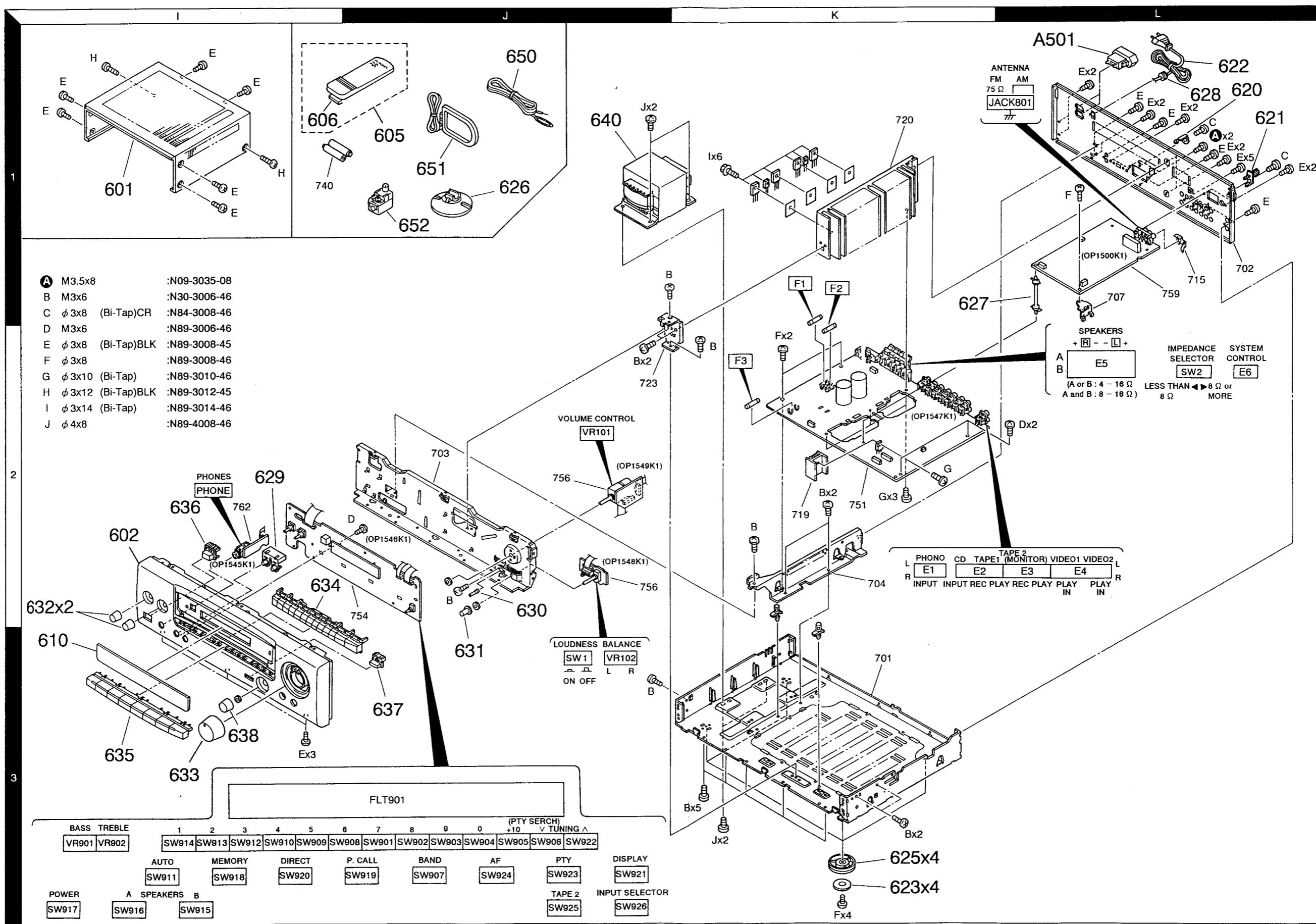


AE AF AG AH AI AJ AK AL AM AN



# KR-A4060/A5060

## KR-A4060/A5060 EXPLODED VIEW (UNIT)



# E.T

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## 1

Ref. No.	Address	New Parts	Ref. No.	Parts No.	Description	部品名 / 规格	Desti- nation	Re- marks
參照番号	位 置	新	參照番号	位 置	新	部品名 / 规格	部品名 / 规格	向
<b>KR-A4060</b>								
601	1I	*	A01-3167-08	METALIC CABINET				
602	2I	*	A06-0533-08	FRONT PANEL				
605	1J	*	A70-0985-08	REMOTE CONTROL ASSY				
606	1I	*	A09-0170-08	BATTERY COVER				
610	3I	*	B10-2040-08	FRONT GLASS				
620	1I	*	B21-0031-08	GND TERMINAL				
		*	B46-0122-23	WARRANTY CARD				
		*	B50-0143-13	INSTRUCTION MANUAL (EN)				
		*	B60-0580-08	INSTRUCTION MANUAL (F/G/D)				
		*	B60-0581-08	INSTRUCTION MANUAL (SP/IT)				
		*	B60-0582-08	GND TERMINAL ASSY				
		*	E21-0023-08	AC POWER CORD				
		*	E30-0459-05	PROTECTION BAG (ACCESSORY)				
		*	H25-0232-04	PROTECTION BAG (MANUAL)				
		*	H25-1532-08	PROTECTION BAG (UNIT)				
▲ 621	1L	*	E21-0023-08	FOOT				
▲ 622	1L	*	E30-0459-05	LOOP ANTENNA HOLDER				
▲ A501	1L	*	E30-0218-05	PCB HOLDER				
▲ A501	1L	*	E30-0555-05	AC CORD				
		*	E30-0133-08	AC OUTLET				
		*	E30-0133-08	AC OUTLET				
623	3K	*	G13-0267-08	CUSHION	FOOT			
		*	H10-5855-08	POLYSTYRENE FOAMED FIXTURE				
		*	H20-1074-08	ITEM CARTON CASE				
		*	H25-0232-04	PROTECTION BAG (ACCESSORY)				
		*	H25-1532-08	PROTECTION BAG (MANUAL)				
		*	H25-1532-08	PROTECTION BAG (UNIT)				
625	3K	*	J02-1099-08	FOOT				
626	1I	*	J19-2815-04	LOOP ANTENNA HOLDER				
627	1K	*	J19-2631-08	PCB HOLDER				
▲ 628	1L	*	J42-0198-08	AC CORD	BUSHING			
629	2I	*	K29-5998-08	KNOB SPEAKERS				
630	2I	*	K27-1166-08	KNOB LOUDNESS				
631	3I	*	K29-4444-08	KNOB BALANCE				
632	3I	*	K29-5152-08	KNOB BASS, TREBLE				
633	3I	*	K29-5953-08	KNOB VOLUME ASSY				
634	3I	*	K29-5954-08	KNOB PRESET				
635	3I	*	K29-5955-08	KNOB FUNCTION				
636	3I	*	K29-5956-08	KNOB POWER				
637	3I	*	K29-5957-08	KNOB TAPE2				
638	3I	*	K27-2111-08	KNOB INPUT SELECTOR				
▲ 640	1J	*	L07-1801-08	POWER TRANSFORMER				
▲ 640	1J	*	L07-1802-08	POWER TRANSFORMER				
A	1L	*	N09-3035-08	TAPPIE SCREW				
B	2J	*	N84-3006-46	PAN HEAD MACHIN SCREW				
C	2J	*	N84-3008-46	BINDING HEAD TAPPIE SCREW				
D	2J	*	N89-3005-46	SAREW				
E	1L, 3I	*	N89-3008-45	BINDING HEAD TAPPIE SCREW				
F	2K	*	N89-3008-46	BINDING HEAD TAPPIE SCREW				
G	2K	*	N89-3010-46	BINDING HEAD TAPPIE SCREW				
H	1K	*	N89-3012-45	BINDING HEAD TAPPIE SCREW				
I	1K	*	N89-3014-46	BINDING HEAD TAPPIE SCREW				
L: Scandinavia	K: USA	P: Canada	R: Mexico					
Y: AAES (Europe)	Y: PX (Far East, Hawaii)	T: England	E: Europe	G: Germany				
X: Australia	X: AAFES (Europe)	X: Australia	M: Other Areas					

4 : KR-A4060  
5 : KR-A5060

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84

Ref. No.	Address	New Parts	Ref. No.	Parts No.	Description	部品名 / 规格	Desti- nation	Re- marks
參照番号	位 置	新	參照番号	位 置	新	部品名 / 规格	部品名 / 规格	向
<b>KR-A4060</b>								
LD901			B30-0413-05	LED(LT4213(RED))				
△ C1	-4		C91-0647-05	CERAMIC	0.01UF	AC250V	CERAMIC	
C55			CK45FF1H103Z	CERAMIC	0.010UF	Z 25KV	ELECTRO	
C56			CE04KWW1E471M	ELECTRO	0.010UF	50KV	ELECTRO	
C7			CE04KWW1H100M	ELECTRO	100UF	10KV	ELECTRO	
C8			CE04KWW1H101M	ELECTRO	1.0UF	50KV	ELECTRO	
C9			CE04KWW1V101M	ELECTRO	100UF	50KV	ELECTRO	
C10			CE04KWW1V102M	ELECTRO	100UF	50KV	ELECTRO	
C11			CE04KWW1R2R2M	ELECTRO	2.2UF	50KV	ELECTRO	
C12			CE04KWW1C220M	ELECTRO	22UF	16KV	ELECTRO	
C13, 14			CK45FF1H73Z	CERAMIC	0.047UF	Z 50KV	ELECTRO	
C15, 16			C90-0366-05	ELECTRO	6.00UF	50KV	ELECTRO	
C17, 18			C90-3561-05	ELECTRO	4.70UF	50KV	ELECTRO	
C22			CK45FF1H103Z	CERAMIC	0.010UF	Z 50KV	ELECTRO	
C23			CK45FF1H223Z	CERAMIC	0.022UF	Z 50KV	ELECTRO	
C24			CE04KWW1H221J	ELECTRO	220UF	J 50KV	ELECTRO	
C31			CE04KWW1V102M	ELECTRO	100UF	35KV	ELECTRO	
C35			CK45FF1H102Z	CERAMIC	0.10UF	Z 50KV	ELECTRO	
C36			CE04KWW1H272K	CERAMIC	2700PF	K	ELECTRO	
C37			CC45CH1H102J	CERAMIC	1000PF	J 50KV	ELECTRO	
C38			CC45CH1H471M	ELECTRO	4.70UF	50KV	ELECTRO	
C39			CC45CH1H487M	ELECTRO	1000PF	J 50KV	ELECTRO	
C40			CC45CH1H102J	CERAMIC	1000PF	J 50KV	ELECTRO	
C100			CE04KWW1H471M	ELECTRO	1000PF	J 50KV	ELECTRO	
C101, 102			CE04KWW1H487M	ELECTRO	1000PF	J 50KV	ELECTRO	
C103, 106			CC45CH1H102J	CERAMIC	1000PF	J 50KV	ELECTRO	
C109, 110			Q92FM1H332J	MYLAR	3300PF	J	ELECTRO	
C111, 112			Q92FM1H123J	MYLAR	0.012UF	J 50KV	ELECTRO	
C113, 114			CE04KWW1H471M	ELECTRO	4.70UF	50KV	ELECTRO	
C115, 116			CK45FF1H102Z	CERAMIC	2200PF	J	ELECTRO	
C137			CC45CH1H221J	CERAMIC	1000PF	J 50KV	ELECTRO	
C138			CC45CH1H221J	CERAMIC	1000PF</			

## PARTS LIST

6

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5

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Ref. No.	Address	New Parts No.	Parts No.	Description	部品名／規格	Desti-nation	Re-marks
参照番号	位置	部品番号	部品番号	位位置	部品番号	部品番号	記号
C852		CK45F1H103M	CERAMIC 0.010UF	M	L803	L33-0381-08	
C853, 854		CC45CH1H220J	CERAMIC 22PF	J	L804	L30-0904-08	IFT AM
C855		CC45F1H471K	CERAMIC 470PF	K	L805	L30-0905-08	IFT FM
C856		CC45SL1H221J	CERAMIC 220PF	J	L806	L30-0906-08	IFT FM
C857, 858		CC45CH1H101J	CERAMIC 100PF	J	L807	L39-1323-08	COIL
C859		CEO4KV1H0B1M	ELECTRØ 0.1UF	50V	L808, 809	L35-0070-08	SMALL FIXED INDUCTOR 1mH
C860		CK45F1H103M	CERAMIC 0.010UF	M	L810	L40-1091-17	SMALL FIXED INDUCTOR 1UH
C861		CK45F1H103M	ELECTRØ 0.1UF	16W	L811, 812	L40-1001-17	SMALL FIXED INDUCTOR 10UH
C862		CK45F1H103M	CERAMIC 0.010UF	M	L901	L40-1091-17	SMALL FIXED INDUCTOR 10UH
C863, 864		CEO4KV1C100M	ELECTRØ 0.010UF	16W	L902, 903	L40-1091-17	SMALL FIXED INDUCTOR 10UH
C865, 866		CK45F1H103M	CERAMIC 0.010UF	M	L905-908	L40-1091-17	SMALL FIXED INDUCTOR 1UH
C868		CC45SL1H220J	CERAMIC 27PF	J	▲ T1	L07-0825-08	TRANSFORMER
C869		CC45F1H103Z	CERAMIC 0.010UF	Z	▲ T1	L78-0616-08	RESONATOR
C870		CC45SL1H271J	CERAMIC 270PF	J	X801	L77-2126-08	CRYSTAL
C871		CEO4KV1C100M	ELECTRØ 100F	16W	X802	4.56kHz	4.332MHz
C873		CK45F1H103M	CERAMIC 0.010UF	M	X803	L78-0617-08	RESONATOR
C874, 875		CC45SL1H270J	CERAMIC 0.010UF	M	X804	L78-0204-05	RESONATOR
C876		CK45F1H103M	ELECTRØ 100F	16W	X901	N89-3010-46	BINDING HEAD TAPTITE SCREW
C877, 878		CEO4KV1C100M	ELECTRØ 0.010UF	M	G		
C879, 880		CK45F1H103M	ELECTRØ 33UF	16W	CP1, 2	R90-0167-05	MULTI-COMP
C903		CE04KV1C350M	CERAMIC 4.70UF	50V	R31	FL-PROOF RD	0.22X2
C905		CE04KV1H487M	CERAMIC 0.01UF	5.5W	R31	FL-PROOF RD	1.0
C906		C9-1827-05	ELECTRØ 100UF	10W	R32	FL-PROOF RD	1.0
C907		CEO4KV1A101M	ELECTRØ 0.010UF	M	R32	FL-PROOF RS	1.2K
C908		CK45F1H103M	CERAMIC 0.010UF	M			
C911, 912		CK45F1H103Z	CERAMIC 0.0082UF	M	R17	RD14GB2E101J	FL-PROOF RD
C913, 914		CK45F1H223K	CERAMIC 0.022UF	K	R217	RD14GB2E221J	FL-PROOF RD
C921		CK45F1H103M	ELECTRØ 4.7UF	50W	R229	RD14GB2E221J	FL-PROOF RD
C922		C902M1H153J	CERAMIC 0.015UF	J	R245	RD14GB2E221J	FL-PROOF RD
C923		CK45F1H153J	MYLAR 0.068UF	J	R249	RD14GB2E101J	FL-PROOF RD
C924		CK45F1H103M	CERAMIC 0.0082UF	M	R253	RD14GB2E101J	FL-PROOF RD
C925		CK45F1H822M	CERAMIC 0.022UF	J	R255	RD14DB3100J	FL-PROOF RS
C926		CC45SL1H220J	CERAMIC 100PF	J	R256	RD14DB3100J	FL-PROOF RS
C927		CC45F1H101J	MYLAR 0.033UF	J	R824	RD14DBA561J	FL-PROOF RD
C928		C92M1H333J	CERAMIC 0.010UF	Z	R827	RD14GB2E101J	FL-PROOF RD
C929		CK45F1H103Z	CERAMIC 0.0082UF	M	R840	RD14GB2E101J	FL-PROOF RD
C930		CC45F1H220J	CERAMIC 22PF	J	R851	RD14GB2E101J	FL-PROOF RD
C931		C92M1H101J	CERAMIC 100PF	J	R866	RD14GB2E101J	FL-PROOF RD
C932		C92M1H333J	MYLAR 0.033UF	J	*	R39-0001-08	POTENTIOMETER 100KBX2
C933		CK45F1H103Z	CERAMIC 0.010UF	Z	R10-5071-08	POTENTIOMETER 100KBX2	
C946		CK45F1H103M	CERAMIC 0.010UF	M	VR201, 202	POTENTIOMETER BALANCE	
C950		CK45F1H103M	PHONE JACK	PHONO JACK	VR801	R12-1066-05	TRIM POT. 1KB IDLE ADJ
E1		E70-0035-08	PHONE JACK	CD, TAPE1	VR802	R12-1033-05	TRIM POT. 4.7KB TUNE LEVEL
E2		E70-0037-08	PHONE JACK	TAPE2, VIDEO1, 2	VR803	R32-0012-08	TRIM POT. 4.7KB FM TUNE LEVEL
E3		E70-0038-08	LOCK TERMINAL BOARD	SPEAKERS	VR901, 902	R32-0012-08	TRIM POT. 100KB SEPARATION
E4		E70-0004-08	MINIATUA PHONE JACK	SYNCHRO		R32-0012-08	POTENTIOMETER BASS TREBLE
E5		E11-0188-05	TERMINAL BOARD ANTENNA	PHONE JACK			MAGNETIC RELAY
E6		E70-0023-08	PHONE JACK	HEAD PHONES			PUSH SWITCH LOUDNESS
JACKBO1	21	F1	T1-6A/250V	FUSE SEMCO T2A/250V	K1	S76-0034-08	SLIDE SWITCH IMPEDANCE SELECT
PHONE		F2	F06-0021-05	FUSE SEMCO T2A/250V	K2	S68-0040-08	TAKEYA TACT SWITCH
		F3	F06-0022-05	FUSE SEMCO T1A/250V	SW1	S62-0032-08	ROTARY SWITCH INPUT SELECTOR
		-	J13-0084-08	FUSE CLIP	SW2	S70-0030-08	DIODE
			L72-0075-08	CERAMIC FILTER	SW901-925	S60-0030-08	DIODE
			L39-1303-08	INDUCTOR 0.15UH	D1	155133	DIODE
			L33-1379-08	INDUCTOR 22UH	D2	1NA002A	DIODE
			L40-1091-17	SMALL FIXED INDUCTOR 1UH	D3	1NA002A	DIODE
			L39-1322-08	C0IL	D14	15	△ indicates safety critical components.

4 : KR-A4060

5 : KR-A5060

L : Scandinavia

K : USA

P : Canada

R : Mexico

E : Europe

F : UK/Hawaii

Y : AAES (Europe)

X : Australia

M : Other Areas

G : Germany

H : Other Areas

ET

▲ indicates safety critical components.  
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# KR-A4060/A5060

## PARTS LIST

⑧

\* New Parts  
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Teile ohne Parts No. werden nicht geliefert.  
Télé. ohne Parts No. werden nicht geliefert.

Ref. No.	Address	Parts No.	Description	Parts No.	Desti-nation	Re-marks
#	位 置	部 品 号	部 品 名 / 规 格	部 品 号	位 置	備考
D16	17	ISS133	DIODE	Q213,214	*	2SC2316
D25	26	ISS133	DIODE	Q215,216	2SA16	TRANSISTOR
▲ D30		DBF40C	DIODE	Q217,218	2SC4467	TRANSISTOR
▲ D31	-36	DBF60C	DIODE	▲ Q217,218	2SC4468	TRANSISTOR
▲ D6-8	10	ISS133	DIODE	▲ Q219,220	2SA1694	TRANSISTOR
D10-104		ISS133	DIODE	Q221,222	2SA1695	TRANSISTOR
D107-110		ISS133	DIODE	Q223,224	2SC1740S	TRANSISTOR
D12	13	ISS133	DIODE	Q801	2SC1740S	TRANSISTOR
D20	,202	ISS133	DIODE			
D203	,204	IN4002A	DIODE	Q802	2SA1740S	TRANSISTOR
D205	,206	ISS133	DIODE	Q803	2SC31940	TRANSISTOR
D80	-809	ISS133	DIODE	Q804	2SC845F	TRANSISTOR
D810		R013ES(B2)	ZENER DIODE	Q805	2SC1740S	TRANSISTOR
D811		ISS133	DIODE	Q806-808		
D812		R013ES(B2)	ZENER DIODE	Q809-810	2SA933S	TRANSISTOR
D901	-920	ISS133	DIODE	Q811	2SD2061E	TRANSISTOR
D921		MIZJ6.2B	ZENER DIODE	Q901,902	MTZ2140S	TRANSISTOR
D922		MIZJ2.7B	ZENER DIODE	2D1	MTZ213.9B	ZENER DIODE
D98	,99	ISS133	DIODE	2D2	MTZ35.1B	ZENER DIODE
FLT901		10-MT-58GX			RD6.2ES(B2)	
IC1		MC7815C	FLUORESCENT INDICATOR TUBE		MTZJ16A	
IC101		NAM4556DD	IC(VOLTAGE REGULATOR/+15V)		MTZ215.1B	
IC102		NJT7313L	IC(OP AMP X2)		RD6.8ES(B2)	
IC102		TC9164N	IC(ANALOG SWITCH) SELECTOR SW		MTZ216.2B	
IC104		NJT7311L	IC(16CH BILATERAL SELECTOR SW)			
IC104		TC9162N	IC(ANALOG SWITCH) ARRAY			
IC105		NJT7312AL	IC(BILATERAL SWITCH X16)			
IC105		TC9163N	IC(BILATERAL SWITCH X16)			
IC106		BA6209N	IC(MOTOR DRIVER)			
ICAO1		LA1266	IC(AW/FM IF)		W02-1111-08	
IC802		LA3401	IC(FM MPX)		W02-1041-15	
IC803		LC7218	IC(PLL SYNTHESIZER)			
IC804		LM258N	IC(RDS DEMODULATOR)			
IC805		TDA7330A				
IC806		LC6543H-4600	IC(MICROPROCESSOR)			
IC810		NAM78105A	IC(VOLTAGE REGULATOR/+5V)			
IC810		UPC78105	IC(VOLTAGE REGULATOR/+5V)			
IC901		UPD7804GF-021	IC(8BIT MICROPROCESSOR)			
IC902		PS7529C	IC(SYSTEM RESET)			
IC903		NJM4556DD	IC(OP AMP X2)			
Q1		2SD882	TRANSISTOR			
Q2	-5	DTC114ES	DIGITAL TRANSISTOR			
▲ Q6		2SA916	TRANSISTOR			
Q8		2SA933S	TRANSISTOR			
Q10		2SA933S	TRANSISTOR			
Q101	-104	2SC2818	DIGITAL TRANSISTOR			
Q105	,106	DTA114ES	DIGITAL TRANSISTOR			
Q107	-109	DTC114ES	DIGITAL TRANSISTOR			
Q201	-204	2SA992	TRANSISTOR			
Q205	,206	2SC1845	TRANSISTOR			
Q207	,208	2SA992	TRANSISTOR			
Q229	,230	2SC1845	TRANSISTOR			
Q211	,212	2SC413(V)	TRANSISTOR			

4 : KR-A4060  
5 : KR-A5060

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L : Scandinavia K : USA P : Canada R : Mexico  
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Y : AAFES (Europe) X : Australia M : Other Areas

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D25	26	ISS133	DIODE	Q215,216	2SA16	TRANSISTOR
▲ D30		DBF40C	DIODE	Q217,218	2SC4467	TRANSISTOR
▲ D31	-36	DBF60C	DIODE	▲ Q217,218	2SC4468	TRANSISTOR
▲ D6-8	10	ISS133	DIODE	▲ Q219,220	2SA1694	TRANSISTOR
D10-104		ISS133	DIODE	Q221,222	2SA1695	TRANSISTOR
D107-110		ISS133	DIODE	Q223,224	2SC1740S	TRANSISTOR
D12	13	ISS133	DIODE	Q801	2SC1740S	TRANSISTOR
D20	,202	ISS133	DIODE			
D203	,204	IN4002A	DIODE	Q802	2SA1740S	TRANSISTOR
D205	,206	ISS133	DIODE	Q803	2SC31940	TRANSISTOR
D80	-809	ISS133	DIODE	Q804	2SC845F	TRANSISTOR
D810		R013ES(B2)	ZENER DIODE	Q805	2SC1740S	TRANSISTOR
D811		ISS133	DIODE	Q806-808		
D812		R013ES(B2)	ZENER DIODE	Q809-810	2SA933S	TRANSISTOR
D901	-920	ISS133	DIODE	Q811	2SD2061E	TRANSISTOR
D921		MIZJ6.2B	ZENER DIODE	Q901,902	MTZ2140S	TRANSISTOR
D922		MIZJ2.7B	ZENER DIODE	2D1	MTZ213.9B	ZENER DIODE
D98	,99	ISS133	DIODE	2D2	MTZ35.1B	ZENER DIODE
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IC1		MC7815C	FLUORESCENT INDICATOR TUBE		MTZJ16A	
IC101		NAM4556DD	IC(VOLTAGE REGULATOR/+15V)		MTZ215.1B	
IC102		NJT7313L	IC(OP AMP X2)		RD6.8ES(B2)	
IC102		TC9164N	IC(ANALOG SWITCH) SELECTOR SW		MTZ216.2B	
IC104		NJT7311L	IC(16CH BILATERAL SELECTOR SW)			
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Q8		2SA933S	TRANSISTOR			
Q10		2SA933S	TRANSISTOR			
Q101	-104	2SC2818	DIGITAL TRANSISTOR			
Q105	,106	DTA114ES	DIGITAL TRANSISTOR			
Q107	-109	DTC114ES	DIGITAL TRANSISTOR			
Q201	-204	2SA992	TRANSISTOR			
Q205	,206	2SC1845	TRANSISTOR			
Q207	,208	2SA992	TRANSISTOR			
Q229	,230	2SC1845	TRANSISTOR			
Q211	,212	2SC413(V)	TRANSISTOR			

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▲ indicates safety critical components.

# KR-A4060/A5060

## SPECIFICATIONS

### KR-A4060

#### *Audio section*

##### Rated power output

(IEC/NF) from 63Hz~12,500Hz	
0.7% T.H.D. at 8Ω	60W + 60W
(DIN) 1,000Hz at 8Ω	60W + 60W
1,000Hz at 4Ω	55W + 55W

Total harmonic distortion (1kHz, 8Ω) 0.01% at 40W

##### Signal to noise ratio

Phono (MM)	56dB (DIN, 50mW output)
CD, TAPE, VIDEO	57dB (DIN, 50mW output)

##### Input sensitivity/impedance

Phono (MM)	2.5mV/47kΩ
CD, TAPE, VIDEO	200mV/47kΩ

##### Tone controls

BASS	±10dB (at 100Hz)
TREBLE	±10dB (at 10kHz)

##### Loudness control at 30dB

Volume level	+9dB (at 100Hz)
--------------	-----------------

#### *FM tuner section*

Tuning frequency range ..... 87.5MHz~108MHz

##### Usable sensitivity (DIN at 75Ω)

MONO	1.1μV
STEREO	4.5μV

##### Total harmonic distortion at 1kHz (DIN)

MONO	0.15%
STEREO	0.5%

##### Signal to noise ratio (DIN weighted at 1kHz)

MONO	68dB (65.2dBf input)
STEREO	61dB (65.2dBf input)

Selectivity (DIN ±300kHz) ..... 53dB

Stereo separation (DIN) at 1kHz ..... 40dB

Frequency response ..... 30Hz~15kHz, +0.5dB, -2.0dB

#### *AM tuner section*

Tuning frequency range ..... 531kHz~1,602kHz

Usable sensitivity ..... 12μV (400μV/m)

Total harmonic distortion ..... 0.3%

Signal to noise ratio (at 30% mod. 1mV input) ..... 50dB

Selectivity ..... 30dB

#### *General*

Power consumption ..... 120W

AC outlet (Switched) ..... 2 : (total 200W max.)

Dimensions ..... W : 440mm x H : 133mm X D : 350mm

Weight (net) ..... 6.8kg

### KR-A5060

#### *Audio section*

##### Rated power output

(IEC/NF) from 63Hz~12,500Hz	
0.7% T.H.D. at 8Ω	100W + 100W
(DIN) 1,000Hz at 8Ω	100W + 100W
1,000Hz at 4Ω	90W + 90W

Total harmonic distortion (1kHz, 8Ω) 0.01% at 50W

##### Signal to noise ratio

Phono (MM)	56dB (DIN, 50mW output)
CD, TAPE, VIDEO	57dB (DIN, 50mW output)

##### Input sensitivity/impedance

Phono (MM)	2.5mV/47kΩ
CD, TAPE, VIDEO	200mV/47kΩ

##### Tone controls

BASS	±10dB (at 100Hz)
TREBLE	±10dB (at 10kHz)

##### Loudness control at 30dB

Volume level	+9dB (at 100Hz)
--------------	-----------------

#### *FM tuner section*

Tuning frequency range ..... 87.5MHz~108MHz

##### Usable sensitivity (DIN at 75Ω)

MONO	1.1μV
STEREO	4.5μV

##### Total harmonic distortion at 1kHz (DIN)

MONO	0.15%
STEREO	0.5%

##### Signal to noise ratio (DIN weighted at 1kHz)

MONO	68dB (65.2dBf input)
STEREO	61dB (65.2dBf input)

Selectivity (DIN ±300kHz) ..... 53dB

Stereo separation (DIN) at 1kHz ..... 40dB

Frequency response ..... 30Hz~15kHz, +0.5dB, -2.0dB

#### *AM tuner section*

Tuning frequency range ..... 531kHz~1,602kHz

Usable sensitivity ..... 12μV (400μV/m)

Total harmonic distortion ..... 0.3%

Signal to noise ratio (at 30% mod. 1mV input) ..... 50dB

Selectivity ..... 30dB

#### *General*

Power consumption ..... 180W

AC outlet (Switched) ..... 2 : (total 200W max.)

Dimensions ..... W : 440mm x H : 133mm X D : 350mm

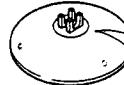
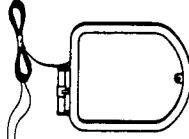
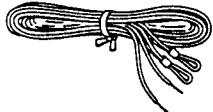
Weight (net) ..... 8.2kg

KENWOOD follows a policy of continuous advancements in development. For this reason specifications may be changed without notice.

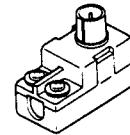
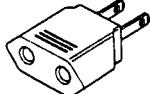
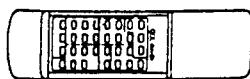
# KR-A4060/A5060

## ACCESSORIES

- FM indoor antenna ..... 1  
(T90-0182-05 : Except E, T type)  
(T90-0176-05 : E, T type)
- AM loop antenna ..... 1  
(T90-0184-08)
- Loop antenna holder ..... 1  
(J19-2815-04)



- Remote control ass'y (RC-R5030) .. 1  
(A70-0985-08)
- AC plug adaptor ..... 1  
(E03-0115-05 : Except E, T type only)
- Antenna adaptor (75Ω/300Ω) ..... 1  
(T90-0185-05 : E, T type only)



- Battery cover (A09-0170-08)
- Batteries (R6/AA) ..... 2



*Except for U.K., Europe and Australia.  
For the unit with a European AC plug in areas other than Europe.*

*For U.K. and Europe.*

### Note :

Component and circuitry are subject to modification to insure best operation under differing local conditions. This manual is based on, the U.S.A. (K) standard, and provides information on regional circuit modification through use of alternate schematic diagrams, and information on regional component variations through use of parts list.

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